General Employee Training

Savannah River Site

TREGGETASTGD000107
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GET COURSE OVERVIEW

DOE Order 5480.20A requires that all new employees receive initial and continuing training in several specific areas. To fulfill this requirement, new employees receive General Employee Training (GET) at the time of their employment at Savannah River Site (SRS). There are numerous other mandated training requirements for all employees that must be satisfied on an annual or biennial basis. To ensure compliance with these requirements, all employees are required to complete Consolidated Annual Training (CAT) each year. All hosts of visitors are responsible for ensuring that necessary training is complete for site access.

This study guide contains more information than is presented in the classroom and is intended to be a permanent reference book and study guide. Employees are responsible for reviewing and being familiar with the material in this study guide.

This study guide does not contain classified information or Unclassified Controlled Information (UCI).

DOE-SR Mission

We serve the nation through safe, secure, cost-effective management of our nuclear weapons stockpile, nuclear materials, and the environment.

DOE-SR Vision

SRS will be a modernized DOE site, recognized for performance and excellence in support of our national security and as a responsible steward of the environment.

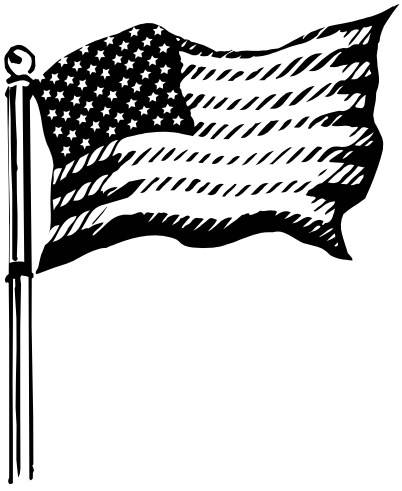


TABLE of CONTENTS

GENERAL DESCRIPTION OF SRS

Enabling Objective:

EO 1.01 Given a list of functions and organizations, IDENTIFY the correct SRS organization and its function.

I. General Description of the Savannah River Site and Facilities

Dedicated to maintaining the highest possible safety standards, the Savannah River Site (SRS) is a key Department of Energy industrial complex responsible for stewardship of the environment, the enduring nuclear weapons stockpile and nuclear materials. More specifically, SRS processes and stores nuclear materials in support of the national defense and U.S. nuclear non-proliferation efforts. The site also develops and deploys technologies to improve the environment and treat nuclear and hazardous wastes left from the Cold War.

The SRS complex covers 198,344 acres, or 310 square miles encompassing parts of Aiken, Barnwell and Allendale counties in South Carolina, bordering the Savannah River.

A. SRS Organizations

EO 1.01 Given a list of functions and organizations, IDENTIFY the correct SRS organization and its function.

1. The **Department of Energy (DOE)** headquarters, Washington, D.C., establishes Federal Energy Policy and directs the implementation of programs that relate to energy use and resources.

2. The **DOE-SR Operations Office** is responsible for the overall operation of SRS.

3. The **National Nuclear Security Administration (NNSA)** is a semi-autonomous agency within the Department of Energy that maintains and enhances the safety, security, reliability and performance of the U.S. nuclear weapons stockpile without nuclear testing and responds to nuclear and radiological emergencies in the U.S. and abroad.

4. **Savannah River Nuclear Solutions (SRNS)** is the prime contractor for SRS and is responsible for the operations and management of the facilities.

5. **Savannah River Remediation (SRR)** is responsible for managing the liquid waste program.

6. **Wackenhut Services, Inc. (WSI)** provides security services for the site.

7. The **U.S.D.A. Forest Service** manages the natural resources on the 310 square mile site.

8. **Savannah River Ecology Lab (SREL)** provides ecological studies to the DOE, but retains its independence regarding academics.

9. **Savannah River National Laboratory (SRNL)** does research and development in waste processing, environmental remediation, nonproliferation technologies, and national security projects.

10. **Subcontractors** supply necessary manpower and services as needed.

B. SRS Facilities

SRS buildings are identified by letters and numbers. The number denotes the type of activity and the letter denotes the physical location onsite.

1. **100 Area: KAMS (K-Area Material Storage)**

2. **200 Areas : F and H Areas -- Chemical Separations Areas** (Canyons, B-Lines and Tank Farms)

3. **400 Area: D Area** - Production of steam and electrical power for the site is accomplished in D-Area.

4. **700 Area: A Area -** The Badge Office, support services, maintenance shops, SRNL, and SREL are located in the 700 Area. Building numbers in the 700s also indicate administrative buildings and can be found in several areas onsite, such as 766-H (Central Training Facility), 707-F, and 735-B.

5. **B-Area:** SRNS and DOE main administrative offices, several SRNS engineering buildings, and WSI headquarters are located in B-Area.

6. **N-Area:** The Medical Department, Substance Abuse Program (SAP) testing, Document Control, warehouses, and Central Shops (construction) are located in N-Area.

7. **Other Projects**

   a. The **Mixed Oxide (MOX) Fuel Fabrication Facility** in F-Area will make fuel assemblies from weapon-grade plutonium and depleted uranium and transfer the fuel to commercial nuclear power reactors to generate electricity. When the MOX fuel has been irradiated, the plutonium can no longer be used in nuclear weapons.

   b. The **Consolidated Tritium Facility (CTF)** is located in H-Area. The Tritium Facility processes tritium and services reservoirs. Tritium is a radioactive form of hydrogen gas that is a vital component of nuclear weapons.

   c. The **Tritium Extraction Facility (TEF)** in H-Area provides the means to extract tritium from tritium-bearing targets irradiated in commercial light water reactors. TEF gives the nation the ability to replenish tritium supplies in nuclear weapons.

d. The **Defense Waste Processing Facility (DWPF)** is located in S-Area. DWPF immobilizes high-level radioactive waste material from the tank farms in glass for permanent storage.

e. In Z-Area,the **Saltstone Facility** takes low-level liquid radioactive waste and immobilizes it in saltstone for storage in cement vaults.

f. The **Solid Waste Complex (Burial Ground)** is located in E-Area. The Burial Ground stores low- and intermediate-level wastes in concrete vaults.

Summary

The Savannah River Site comprises several different organizations which provide the site with a variety of services. Each group has its own distinct responsibilities that contribute to the culture and work environment.

Answer the self-check questions below. The answers are in the back of this study guide.

1. What organization provides security services to the site?

   A. Department of Energy – SR (DOE-SR)
   B. Wackenhut Services, Inc.
   C. Savannah River Nuclear Solutions
   D. Aiken Sheriff's Office

2. What organization is responsible for the overall operation of SRS?

   A. Department of Energy – SR (DOE-SR)
   B. Department of Energy – HQ (DOE-HQ)
   C. Savannah River Nuclear Solutions (SRNS)
   D. Nuclear Regulatory Commission (NRC)

3. What organization does research and development in waste processing, nonproliferation technologies, and homeland security?

   A. Defense Waste Processing Facility (DWPF)
   B. Department of Energy – SR (DOE-SR)
   C. Tritium Extraction Facility (TEF)
   D. Savannah River National Laboratory (SRNL)

SECURITY PROGRAM

Enabling Objectives:

EO 2.01 **Given a list of responsibilities, SELECT the appropriate employee responsibility for the security area.**

EO 2.02 **Given a list of prohibited and controlled articles, SELECT the items which are prohibited within the legal boundaries of SRS, and controlled within security areas (Limited Areas and higher).**

EO 2.03 **Given a list of responsibilities, IDENTIFY the employee's responsibilities to the Challenge System.**

EO 2.04 **Given a situation and a list of responses, IDENTIFY the correct response when driving privately-owned or government vehicles onsite.**

EO 2.05 **Given a list of responsibilities, IDENTIFY the employee's responsibilities when using government property.**

EO 2.06 **Given a list of responsibilities, IDENTIFY the employee's responsibilities when transporting government property.**

II. Security Program

The mission of the Savannah River Operations Office is to serve the national interest by providing leadership, direction, and oversight to the Savannah River Site. SRS's programs, operations, and resources are managed in an open, safe, environmentally sound and cost-effective manner with a primary focus to:

- Store, treat, stabilize and dispose of waste materials
- Restore the environment and manage natural resources
- Develop mission-supportive technology partnerships
- Manage the disposition of nuclear materials and facilities
- Support current and future national security and nuclear materials requirements

The purpose of the SRS Safeguards and Security Programs is to establish roles and responsibilities and to inform each employee of his responsibility for security. This section provides policies that meet the security requirements of the Department of Energy (DOE) manuals.

A. Safeguards and Security Program Planning and Management

1. Safeguards and Security Awareness

The purpose of the Security Awareness Program is to ensure employees are aware of their safeguards and security responsibilities and to promote continuing awareness of good security practices.

The Security Awareness Program is implemented by using a variety of methods including, but not limited to, formal presentations, interactive videos, computer-based instructions, and instructional materials, such as monthly security topic slides. A Security Awareness Program manager is appointed to formulate the security awareness program; to design, develop and deliver security awareness briefings; and to serve as a security resource.

DOE mandates that employees be informed of their security responsibilities before receiving a photo identification badge. As an overview, these briefings are designed to help you understand the required levels of security employed to ensure the protection of classified matter, government property, and the health and safety of employees, the public, or the environment. DOE mandates that employees receive the following security briefings:

a. **Initial Security Briefing**

- Presented in General Employee Training (GET) prior to badging.
- Introduces the new employee to the site security requirements.
- Must be completed before personnel assume their duties.

b. **Comprehensive Briefing**

- Presented when an "L" or "Q" clearance is granted.
- Detailed information is presented explaining the levels, access authorizations, and protection requirements for classified information and matter.
- Required when an access authorization is extended or transferred to another DOE facility/organization.

c. **Annual Security Refresher Briefing**

This briefing is an annual requirement and is presented in Consolidated Annual Training (CAT).

NOTE: CAT is refresher GET and is required every 12 months. It is available at your desktop. If you do not have access to a computer, contact your supervisor or Subcontract Technical Representative (STR).

d. **Termination Briefing**

- Presented to employees who no longer require their "L" or "Q" security clearance in the performance of their job duties.
- Presented to employees who are terminating employment with the Department of Energy or a DOE contractor.
- Reminds employees of their continuing security responsibilities after their access authorization is terminated.

2. Incidents

a. A **violation** is an action or intent that constitutes a violation of U.S. law or Executive Order or the implementing directives. An example is communication or disclosure of classified information, with or without intent to injure the U.S. through deliberate or negligent means.

b. An **incident of security concern** is an event which is of concern to the DOE Safeguards & Security Program that warrants preliminary inquiry and subsequent reporting.

c. Incident Identification

Incidents of security concern are identified as actions, inactions, or events that have occurred at SRS which:

1) pose threat to national security interests and/or critical DOE assets

2) create potentially serious or dangerous security situations

3) potentially endanger the health and safety of the workforce or public (excluding safety-related items)

4) degrade the effectiveness of the Safeguards & Security Program

5) adversely impact the ability of organizations to protect DOE safeguards and security interests

d. Program Parameters

Incidents of security concern may involve a security deviation; inadvertent access, unauthorized disclosure, loss, potential or actual compromise of classified and unclassified controlled information; theft, diversion, loss or destruction of special nuclear material, nuclear weapons or weapon components; espionage; loss or theft of government property; loss of confidentiality, integrity, or availability of information systems; and other hostile acts that may cause unacceptable adverse impacts on national security.

Any SRS employee who becomes aware of circumstances or events that constitute an incident of security concern is responsible for immediately notifying his supervisor or organizational Security Incident Program Manager (SIPM).

The supervisor of any employee at SRS involved in, or having information related to, a potential incident of security concern is responsible for contacting his organizational SIPM immediately upon discovery/notification of the security incident.

e. **Employee Responsibilities in Reporting Incidents**

All SRS employees are responsible for reporting incidents of security concern to their organizational SIPM. After hours, notify WSI at 803-725-3911.

If the SIPM is not available, report these as indicated.

- Deliberate compromise of classified information, involvement of domestic or foreign intelligence agencies, or economic espionage – **DOE Counterintelligence Program Manager at 803-725-5086**

- Computer systems, terminals, etc. – **organizational Cyber Security Manager**
- Wiretap and eavesdropping devices – **organizational Technical Surveillance Countermeasures Officer or the SR Technical Surveillance Countermeasures Operations Manager**
- Misuse, improper handling, loss of classified matter or unescorted personnel – **organizational Classified Matter Protection and Control Program Manager**
- Unauthorized transfer of export control matter – **organizational Export Control Program Manager**
- Nuclear materials control and accountability – **SR Office of Safeguards, Security and Emergency Services, Nuclear Safeguards Team**
- Fraud, waste, abuse, or other wrongdoing not involving national security interests – **DOE Office of the Inspector General**

B. Physical Security

The physical security of SRS requires different levels of security and access controls depending on what is to be protected.

The physical security and access control measures are more stringent when protecting certain quantities and types of nuclear material, but may be less stringent when protecting certain items of government property. Your security photo badge must be worn at all times, photo side out and above the waist, while onsite to determine your level of clearance and access authorization for specific security areas.

EO 2.01 Given a list of responsibilities, SELECT the appropriate employee responsibility for the security area.

Security Areas

A Security Area is a physically defined space containing a security interest and is subject to protection and access controls. Security Areas have clearly defined barriers such as fences, walls, and doors. Contraband requirements vary depending on the Security Areas designation.

1. Property Protection Area (PPA)

a. Defined by a fenced area, secured building, or manned barricade. Established for the protection of government property against damage, destruction, or theft.

b. Entry/exit inspections are conducted randomly to prevent the unauthorized introduction of prohibited articles.

c. All employees and badged visitors have unescorted access with a security photo badge.

d. Offsite facilities and the areas formerly referred to as the General Site are designated as Property Protection Areas.

e. Examples: Central Training Facility (766-H) and the engineering buildings in B-Area.

2. Limited Area (LA)

a. Defined by permanent barriers that control, impede or deny access to unauthorized individuals. Established for the protection of classified matter and quantities of Category III Special Nuclear Material (SNM).

b. Protective Force personnel or other internal controls are in place to prevent access to classified matter by unauthorized persons.

c. Unescorted entry requires an "L" or "Q" clearance and for specific facilities, an access limiter on the security badge.

d. Entry/exit inspections are conducted randomly to prevent the unauthorized introduction of prohibited articles and the unauthorized transporting of government property.

e. Examples are locations within the 700-A Administration Areas, Savannah River National Laboratory, and the 200-H Area.

3. Protected Area (PA)

a. Established for the protection of Category I and II quantities of SNM.

b. Encompassed by physical barriers, including perimeter intrusion, detection and assessment systems.

c. Access controls include metal detection on entry/exit and SNM detection on exit.

d. "Q" cleared employees with additional access codes on their badges are allowed unescorted entry.

e. "L" cleared employees may require access approval and an escort.

4. Material Access Area (MAA)

a. Located within Protected Areas and are used for the protection of Category I SNM or Category II quantities SNM with credible rollup to a Category I quantity.

b. Usually vaults or vault-type room located within a Protected Area.

c. "Q" cleared employees, with special access limiters, are allowed unescorted access.

5. Exclusion Area (EA)

a. Defined by physical barriers with access controls where mere presence in the area would result in access to classified matter. Exclusion Areas must meet all requirements of a Limited Area. Visual barriers must be used if visual access is a factor.

b. "Q" cleared employees with special access and authorization are allowed unescorted access.

c. Exclusion Areas at SRS are located within the Tritium Facilities Limited Area.

EO 2.02 Given a list of prohibited and controlled articles, SELECT the items which are prohibited within the legal boundaries of SRS, and controlled within security areas (Limited Areas and higher).

C. Prohibited and Controlled Articles

Prohibited and controlled article requirements vary according to the security area (Limited Areas and higher). Certain items are prohibited while even more items are controlled and are not allowed in Security Areas.

1. Prohibited Items Anywhere on SRS Property

- Weapons (cross-bows; bows and arrows; martial arts weapons, such as butterfly knives; other fixed-blade knives not intended as eating utensils or required in the performance of duty; and folding knives with blades over three inches)

- Firearms **(Exception: shotguns belonging to hunters who have been issued SRS hunt permits and are participating in authorized hunts)**
- Simulated firearms
- Ammunition and explosives
- Incendiaries and accelerants, to include paint thinner, solvents, propane, gasoline, etc.; explosive materials and related devices **(Exception: highway safety flares if properly stored in the vehicle)**
- Alcoholic beverages, including beer, wine, non-alcoholic beer and energy drinks that contain alcohol
- Non-prescription narcotics, illegal drugs, controlled substances and drug paraphernalia or articles used in the sale, manufacture, delivery, or possession of illegal drugs. These articles include hypodermic needles and syringes, roach clips, spoons, vials and pipes designed to smoke hashish or marijuana

  NOTE: Hypodermic needles or syringes used for legitimate medical purposes, such as insulin injections, are not contraband.
- Tear gas, chemical mace and devices containing chemical agents chloracetophenone (cn), orthochlorbenzalomalononitrile (cs) or other chemical irritants

  Exception: containers of two ounces or less of pepper spray or mace carried for personal use are not prohibited at SRS.
- Stun guns (small devices that generate electrical shock)
- Garden and yard tools, such as shovels, pitchforks, rakes, shredders, garden tillers, chippers, hedge trimmers, lawn mowers, electric trimmers, weed-eaters, etc.
- Tool boxes
- Luggage or other containers

2. Controlled Articles Not Permitted in Security Areas (Limited Areas or higher)

- Electronic copying or recording devices (e.g., tape recorders, video recorders, digital cameras)
- MP3 players, iPods, or other similar devices containing a microprocessor
- Portable Global Positioning Systems (GPS)
- Cameras and undeveloped film, including disposable cameras with built-in film
- Wireless transmitting equipment
- Two-way radios (including Citizen Band and cell phones unless permanently mounted in a vehicle that is authorized to enter on official business) Radios identified as government property or installed in a vendor vehicle authorized to enter a security area on official business are exempt from this policy.
- Non-government pager with transmitting capabilities

3. Personally-Owned Electronic Equipment (POEE)

Personally-Owned Electronic Equipment (POEE) is defined as all electronic equipment not purchased with U.S. government funds. Site policy prohibits the use of any employee-owned computer, recording device, or communications device for site business or from entry into site facilities (facilities in Limited Areas or higher).

POEE examples include, but are not limited to:

- Electronic organizers (allowed in General Site and Property Protection areas **ONLY**)
- Cell phones and Blackberry devices (allowed in General Site and Property Protection Areas **ONLY**)
- Any personally-owned computer, including but not limited to desktop, laptop and handheld computers

- Data bank watches (watches that store data such as phone numbers and calendars)
- Pagers
- Cameras
- Recording equipment
- Similar devices which might be used for business information communications, processing or data storage

Employee-owned devices may be brought on the General Site as long as they remain in the employee's vehicle. They may not be brought into any site facility.

NOTE: Personally-owned electronic equipment is not allowed in Limited Areas or higher.

DOE Manual 470.4-2, *Physical Protection*, dated August 26, 2005, requires that a cognizant DOE authority approve use of Controlled Articles to ensure the equipment is mission-essential, is government-owned or leased (therefore, involving no additional expense), and a risk analysis has been performed to identify vulnerabilities inherent with the characterization and operations. Authorization for use of such devices in one security area does not apply to all other security areas.

4. Retrieval of Controlled Articles

a. Controlled articles can be confiscated by WSI-SRS security personnel. It is the employee's responsibility to surrender the item(s).

b. Employees may retrieve controlled articles if they are not illegal or if entry of the item into an area has not caused a security concern.

5. Prohibited and Controlled Articles (PACA) Pass

Requestors must explain that the PACA pass is essential to performing their work. The electronic equipment must not have video or audio capture or wireless transmission.

Individuals not cleared for unescorted access to an area may not be issued a PACA pass for that area. However, a PACA pass can be issued to the assigned escort who will control the electronics and oversee their operation.

- SRNS and WSI badge offices issue one-day and extended passes for specific items (e.g., cameras, tape recorders and video recorders).
- The PACA pass can only be used by the person to whom it is issued, except for passes issued to a "bearer" which can be used by uncleared personnel and escorted vendors.
- The PACA pass allows an employee to carry a specific item of contraband into and out of a security area or onsite. An example is the photographic equipment the SRS photographers use.
- Only "Q" or "L" cleared personnel may be authorized to possess prohibited and controlled articles in security areas. Uncleared persons may be authorized to possess prohibited and controlled articles on the General Site.
- Extended PACA passes may be issued for up to one year with organizational manager or higher approval.

D. Access Controls and Entry/Exit Inspection

1. **Point of Entry Process**

The Point of Entry (POE) Process was designed for non-photo badged individuals (temporary visitors, vendors, and subcontractor activity) or when visiting with any member of the performing entities at SRS.

The Integrated Safety Management System (ISMS) is a Safety Management System to systematically integrate safety into management and work practices at all levels as required by DOE policies. The POE Process ensures that vendor and visitor activities and work scopes are reviewed from an ISMS perspective, including hazard evaluation and hazard designation, to confirm that appropriate controls are established before beginning work. Focused observations are required of high and medium hazard tasks. DOE-SR, NNSA, SRNS, SRR, WSI, SREL, and the USDA Forest Service use this process. It is also applicable to their visitors, vendors, and subcontractors.

All visitors and vendors must receive a general visitor/vendor safety and security briefing in the 703-46A Badge Office via the computer stations located there before being issued a temporary non-photo badge.

All SRNS vendors making deliveries to the SRNS Procurement Warehouse Operations will also use hazard-specific checklists for high and medium hazard work and will be subject to focused observations, as appropriate.

In summary, the POE process includes:

- A designated assigned competent person (ACP) role and responsibilities
- Hazard evaluation, hazard designation, and identification of applicable focused observation checklist(s)
- A general visitor/vendor safety and security briefing for all visitors and vendors
- A briefing on focused observation checklist at the site location

- Focused observations of high and medium hazard activities
- Performance monitoring, via the focused observations

2. Escorting

Escorting individuals who are not cleared for a security area or facility is something you may have to do from time to time. As an escort, you must:

- Ensure personnel you escort are aware of area safety and security rules and regulations
- Ensure escorted personnel do not bring into a security area any prohibited and controlled articles
- Maintain continuous visual and voice control of the escorted personnel
- Ensure escorted personnel do not have access to any classified materials, conversations, and computers
- Discuss only authorized information with the escorted individuals
- Notify security personnel when problems occur with personnel being escorted
- Report inappropriate questions or discussions to the DOE-SR Counterintelligence Office at 803-725-5086.

EO 2.03 Given a list of responsibilities, IDENTIFY the employee's responsibilities to the Challenge System.

3. The Challenge System

The purpose of the Challenge System is to prevent unauthorized persons from obtaining access to classified work areas or to classified information not officially required in the performance of their assigned duties. It is also used to address persons not wearing their photo security badges.

Actions

All personnel in the work area are responsible for questioning persons who are:

- Not assigned to the work area
- Not properly cleared for the work area
- Not wearing a badge
- Uncleared, without their escort in an escort-required area
- Requesting information (sensitive or non-sensitive) without a need to know

A challenge is made by asking a person if he needs assistance.

If you encounter a person who is not cleared for the area or the person is not wearing a security badge, confront the person and simply ask the location of his escort and why his security badge is not visible. Assume escort responsibilities and immediately escort the individual to a WSI Security Police Officer or your area security representative.

EO 2.04 Given a list of situation and a list of responses, IDENTIFY the correct response when driving privately-owned or government vehicles onsite.

E. Wackenhut Services, Incorporated (WSI) and Driving Onsite

WSI personnel provide the physical security and protective force at specified control points. The controls include, but are not limited to, badge touching to ensure positive identification, fences, barricades, and monitoring devices.

1. Random Inspections

You may be part of a random inspection at entry and exit points to the site, to facilities or to areas. Follow the instructions of the WSI officer. Failure to comply can result in denial of entry. WSI officers have warrantless arresting authority like state law enforcement authorities do.

If you are stopped for random inspection upon entry or exit to the site, the WSI officer will wave you over to a safe lane where you can park.

Follow these steps:

- Put your vehicle in park, apply the parking brake and turn off the engine.
- Open all inner compartments.
- Exit the vehicle.
- Hand your Site ID badge to the WSI officer and tell him what company you work for.
- Open all your doors and your trunk.
- Open any closed containers, such as briefcases, purses, and lunch boxes.

NOTE: If you cannot, or will not, open your glove compartment, trunk, or any container, the WSI officer will deny you entry to the site.

2. Vehicle Documents

When a personally- or privately-owned vehicle (personally-owned, subcontractor vehicle, vendor vehicle, etc.) is pulled for a random inspection at a perimeter barricade, WSI, in addition to checking for required security badges and conducting a search of the vehicle, will also ask for your driver's license, current registration and current proof of insurance. These documents are required to be on the individual's person or in his/her vehicle.

Anyone not having one or more of these three documents will be denied site access. If in violation of a law, the individual will be cited for the violation.

As security conditions change, our security posture will adjust to the need. Whether security is enhanced or downgraded, employees will be informed of these changes through communication tools such as security bulletins, employee communications (e-mail), toolbox sessions, and staff meetings.

3. Traffic Accidents and Citations

a. Immediately report all onsite traffic accidents to WSI-SRS Law Enforcement at 803-725-2310.

b. Immediately report all onsite traffic accidents and citations to your supervisor.

c. Report all offsite traffic accidents and citations to your supervisor if you were driving a government vehicle or your personal vehicle on government time.

d. If you have an accident while operating a government vehicle, complete and distribute the forms in the glove compartment.

4. Personally-Owned Recreational Vehicles

Personally-owned recreational vehicles (boats, campers, travel trailers, motor homes, cargo trailers) are not allowed to enter the site.

You can get permission for short-term parking.

- Contact WSI Law Enforcement at 803-725-2310 the night before the day you want to leave your vehicle.
- Park in the Augusta Parking Lot in A-Area.
- Do not leave your vehicle there for more than 24 hours.
- Your vehicle is subject to inspection.
- Unauthorized vehicles will be towed.

F. DOE Badge Program

1. Standard DOE Badge

A photo ID badge is required for unescorted entrance to the Savannah River Site. The security badge color identifies the access level the wearer has been approved for through the DOE Personnel Security Program. Clearance approval and need-to-know are components for access to national security information.

- Grey – Uncleared personnel who have completed the Identity Proofing process per DOE N 206.3.
- Maroon – SRS-specific for uncleared personnel
- Yellow – "L" clearance
- Blue – "Q" clearance
- Red with FN – foreign nationals
    - Red photo-badged FNs are considered assignees and do not require an escort except in Limited Areas and higher.
    - Red non-photo-badged FNs are considered visitors and require escorts at all times.

DOE contractors, which include the site employers and subcontractors, are identified by the letter “C” along the right edge of the security badge.

The standard badge is used by all DOE sites.

Access to any level of classified matter is restricted to individuals who are authorized or "cleared" through the DOE's Personnel Security Program. The DOE security badge is used as an indicator of authorized site access and the level of clearance. Follow these rules when you are issued a badge:

- You must wear your badge at all times while onsite and at offsite DOE facilities.
- You must wear your badge in plain view and at chest level.
- **DO NOT** wear your badge in public or use it as personal identification outside of SRS.
- **DO NOT** use your badge off-site for verification of employment or for verification for discounts. Use your Site ID/ProRad badge for these situations.
- It is against the law to counterfeit, alter, or misuse your badge.
- If your badge is lost or stolen, report it immediately to the Badge Office.
- Your badge is the property of DOE and you must return it to the Badge Office if it has expired, is no longer needed, or upon your termination.
- If you take an extended leave of absence (90 days or longer), you must return your badge to the Badge Office.
- Renew your badge when there is a change in name, physical appearance or the badge becomes faded or damaged.
- Protect your badge from theft.

NOTE: SRS does not issue one-day temporary badges. If you forget your badge, you will have to retrieve it prior to entry to the site.

If you lose your badge, you must complete form OSR 10-32, *Lost/Forgotten/Damaged/Stolen Badge Report* and submit it to the Badge Office.

If your badge is stolen, you must produce a police report and submit the proper form to Personnel Security.

2. **Site ID/ProRad Badges**

This badge displays the employee's name, photo and User ID (bar-coded). It's about the size of a credit card and has a magnetic strip on the back.

The badge has several purposes:

- It is scanned at the barricade when an individual is pulled over for a random inspection.
- It is used in place of RAD I, RAD II and Non-RAD badges at the nuclear facilities onsite.
- It may be used offsite as proof of employment to obtain a government rate at hotels for official SRS business travel.
- It is scanned for class attendance.

You must wear your Site ID/ProRad badge at all times onsite.

Proximity Badge

This badge is a tan supplemental badge that contains access authorization information and allows an individual access into certain security areas. Uncleared personnel may be issued a proximity card but are required to be escorted by a cleared individual when entering a Limited Area or higher security area. If you are being escorted, it is required that you remain with your escort at all times.

G. Information Security

Information security establishes security requirements for the protection and control of information and matter required to be classified or controlled by statutes, regulations, or DOE directives.

1. Classified Matter Protection and Control

Classified markings are Confidential, Secret, Top Secret, National Security Information, Formerly Restricted Data and Restricted Data. This information must be protected from unauthorized access.

Classified documents are identified with a cover sheet. A blue cover sheet indicates a Confidential document classification and a red cover sheet indicates a Secret classification.

2. Unclassified Controlled Information (UCI)

Unclassified Controlled Information (UCI) is unclassified information that may be exempt from public release under the Freedom of Information Act. Information at SRS includes not only general information but also classified information as well as UCI, such as Unclassified Controlled Nuclear Information (UCNI), Official Use Only (OUO), and Export Controlled information. This information must be protected from unauthorized access.

Access to UCI must be provided only to authorized personnel or someone with the need-to-know in the performance of his job. Authorized personnel must maintain physical control over all UCI documents while in use. UCI must be stored to prevent unauthorized access to the information.

If you are located within a Limited Area, UCI documents only require storage in unlocked desks, file cabinets or a bookshelf, but must be out of sight.

Outside of Limited Areas, UCI must be secured behind a locked door or in a locked container when unattended.

3. Export Control

Export Control is the process that identifies and controls certain equipment, material, or technical information that if released, could harm U.S. nuclear nonproliferation or national security objectives.

All international transfers and some domestic transfers of material and information are controlled and affected by specific Export Control Laws. All material and information transfers must be reviewed and approved for release by the Export Control Officer.

No SRS information (documents, slides, posters, CDs, DVDs, web pages, etc.) may be released to the public without being approved through your organization's Release of Information program.

Nonpublic technical data is any information, print or electronic, regardless of form, that has not been approved for release to the general public through the Release of Information process. This nonpublic technical data **cannot** be transmitted to a foreign national or exported out of the United States without an export license review even if the foreign national is visiting SRS under the terms of a classified visit.

4. Technical Security

The Technical Security Program is intended to detect and defend against technical surveillance threats and neutralize vulnerabilities associated with various communication and data processing technologies.

Conducting classified operations in properly approved areas is key to protecting information. Most technical surveillance devices require physical access for effective placement. The first line of defense in preventing such placement is an observant workforce. Any suspicious behavior or unauthorized personnel in your work area should be questioned.

The discovery of unattended transmitting or recording equipment in security areas must be immediately reported to Technical Security at **803-725-4133** or **3-3911**. If you suspect a surveillance device in your work area, contact the Technical Security Team at **803-725-4133** or **3-3911** from a location other than where the surveillance device is located.

Any action related to a technical surveillance attack, actual or suspected, is considered classified and based on strict need-to-know principle, so do not discuss the matter with others.

H. Material Control and Accountability (MC&A)

The DOE Material Control and Accountability Program is responsible for ensuring that our site's nuclear materials inventory is accounted for and adequately protected from theft.

One of SRS' primary missions is the disposition of Special Nuclear Material (SNM) – plutonium and uranium – including processing, storage, and final disposal activities. The MC&A Program assures that the nuclear material inventory is accounted for and that nuclear materials have not been lost, diverted, or stolen.

I. Computer Security

All government-owned computer systems at SRS must be used for official business only. Personal software and games are not allowed on government computers.

Unsolicited E-mail

The amount and frequency of unsolicited bulk e-mail, known as spam, coming from offsite is a problem. While it costs very little for businesses and individuals to send thousands of e-mails, handling spam continues to strain limited resources. The site employs several layers of content filters to detect spam and prevent its delivery. The Lotus Notes Team adjusts the filters daily to increase the effectiveness of spam detection and prevention.

If you receive spam, you do not need to contact your Help Desk. Instead forward spam to ABUSE. You do not need to change the subject line. The Lotus Notes Team will not respond to the forwarded message, but they will adjust the spam filters accordingly. You may delete the spam the next business day.

Computer Media Disposal

All unclassified computer media, such as disks, diskettes, CDs, DVDs, hard drives or thumb drives, must be hand delivered to Computer Media Disposal in 722-5A. **DO NOT** use site mail to send unclassified computer media to Computer Media Disposal.

This process ensures unclassified sensitive information such as Official Use Only, Unclassified Controlled Nuclear Information, and Personally Identifiable Information is not inadvertently released from SRS and is properly sanitized as required by the Computer Security Code of Conduct.

Constructive disciplinary action may be taken up to and including termination for failure to follow the requirements in the Computer Security Code of Conduct, including the media sanitization/disposal process.

J. Counterintelligence Program

1. Lessons Learned – The Spy Years

In headlines we learn that Russian intelligence agents managed to place wiretaps in the State Department. Government laptop computers with sensitive information turn up missing. A fire near a DOE National Laboratory causes an audit of classified information, which reveals missing classified computer disks which mysteriously reappear. A scientist at another National Laboratory pleads guilty to downloading sensitive data onto ten computer disks.

These and other cases of espionage have prompted DOE to immediately restructure current contracts with the contractor of the National Labs.

2. What is Counterintelligence?

Information gathered and activities conducted to protect against espionage, other intelligence activities, sabotage or assassinations conducted for or on behalf of foreign powers, organizations or persons or international terrorist activities.

3. Why is Counterintelligence awareness important?

- Recent Government Accounting Office (GAO) and Federal Bureau of Investigation (FBI) studies show dramatic increase in foreign interaction within the DOE complex.
- This interaction and cooperation contributes to scientific breakthroughs but also increases risk of foreign intelligence collection activities.
- GAO reports DOE employees/contractors being targeted for intelligence operations during travel aboard.
- Global economic competition has caused many countries to target the U.S. research and development community to boost their own economic development at less cost.
- DOE is a prime target for espionage to obtain nuclear weapons data and material.

4. What are your responsibilities for Counterintelligence?

- Understand and comply with all security requirements, including foreign travel briefings and de-briefings, hosting foreign visitor briefings and as needed, counterintelligence briefings.
- Report any professional, personal or financial relationship developed with a foreign national and as needed.
- Report any unusual solicitations from any unauthorized person to obtain classified information; counterintelligence anomalies, which would indicate a foreign power has prior knowledge of sensitive information; or any attempted exploitation by a foreign entity.
- Report all contacts with individuals of any nationality in which illegal or unauthorized access is sought for classified or otherwise sensitive information, material, technology, or facilities.

- Cleared employees must notify the DOE Personnel Security Office immediately after an approach or contact by any individual seeking unauthorized access to classified matter or Special Nuclear Material.

- Inform your Foreign Travel Office of all intended foreign travel 30 to 45 days prior to departure. Official sensitive foreign travel must be reported to DOE Headquarters through the Foreign Travel Management System at least 45 days before your planned departure. If engaging in DOE-sponsored Sensitive Conference Travel, report this at least a minimum of 90 days before your planned departure. Unofficial Sensitive Foreign Travel must be reported a minimum of 30 days prior to planned departure. Your organization's Foreign Travel Officer will be able to provide additional information or answer any questions you may have. The Foreign Travel policy applies to all SRS-badged personnel, contractor and subcontractor.

- Understand the threats are real and impact everyone within the DOE complex.

Contact the DOE-SR Counterintelligence Office (CIO) at **(803-725-5086)** for information, for assistance in reporting incidents, or to report foreign travel.

These responsibilities apply to all employees, regardless of security clearance or work performed.

K. Reporting Incidents of Safeguards and Security Concerns

Employees, including subcontractors, are required to report the following incidents to the SRNS Security Office, or to DOE:

1. To the Personnel Security Office

a. All arrests, charges (including any that were dismissed), citations or detention by any federal, state, or other law enforcement agencies; and violations of federal, state, county, or municipal laws, regulations or ordinances (other

than traffic violations for which a fine of $250 or less was imposed) are to be reported verbally within two working days and in writing within the next three days.

b. Legal name changes. Complete the proper form and submit to Security within five working days of the change. Contact your supervisor or STR for the proper form.

c. Contacts (other than official or of limited social duration) with individuals or organizations from sensitive countries

d. Any approach or contact by an individual seeking access to classified matter or sensitive information

e. Bankruptcy or garnishment of wages

f. Employment by a foreign or foreign-owned interest

g. A change in citizenship status

h. Hospitalization for treatment of mental illness or conditions or for substance abuse, to include alcohol abuse

i. Lost, forgotten or stolen badges

NOTE: SRS does not issue one-day temporary badges. If you forget your badge, you will have to retrieve it prior to entry onto the site.

If you lose your badge, you must complete the proper form and submit it to Security. (Your supervisor or STR can get you the proper form.)

If your badge is stolen, you must produce a police report and submit the proper form to Security. (As above, your supervisor or STR can get you the proper form.)

2. To the Counterintelligence Officer

a. All contacts with individuals of any nationality, in which illegal or unauthorized access is sought to classified or otherwise sensitive information, material, technology, or facilities

b. Any attempted exploitation by a foreign entity

c. Any approach or contact by an individual seeking access to classified matter or sensitive information

For more information, contact the DOE Office of Counterintelligence onsite at 803-725-5086.

3. To the Foreign Travel Officer

All intended foreign travel 30 to 45 days prior to departure, including travel to non-sensitive countries. This requirement applies to all SRS-badged employees, regardless of clearance level or job scope. (See Sensitive Countries list in back of study guide, page 185.)

4. To WSI or your organization's area security representative

a. Security incidents (Compromise of classified matter and/or Special Nuclear Materials ((SNM)); acts of sabotage or terrorism; bomb incidents, threats or hoaxes; and/or civil disorders and demonstrations)

b. Theft or destruction of government property

c. Malicious mischief or vandalism

d. Unfamiliar persons in your work area

e. Suspicious activities – Lessons Learned from an actual event on site

If you receive or discover a suspicious package or envelope, DO NOT TOUCH OR MOVE THE ITEM AFTER YOU DETERMINE A CREDIBLE THREAT EXISTS. CLEAR THE IMMEDIATE AREA AND CONTACT THE SRSOC at 3-3911 or 803-725-3911.

5. To Computer and Information Security Office

Computer security incidents, including missing or changed data not modified by the data owner, suspected surreptitious entry, and/or suspected or confirmed computer viruses

6. To Technical Security

Suspected wiretap, eavesdropping or other surveillance devices

NOTE: Do not call from the suspected area and do not discuss the incident over the telephone. Request that a Technical Security person meet you personally.

L. Vehicles

1. Use of Government Vehicles

   a. You must have your supervisor's authorization to operate a government vehicle.

   b. The vehicle must be used for official business only.

   c. Only passengers on official business are permitted to ride in government vehicles.

   d. The driver must possess a valid state driver's license. The license does not have to be a South Carolina license.

   e. All government vehicles must be locked when unattended.

EO 2.05 Given a list of responsibilities, IDENTIFY the employee's responsibilities when using government property.

M. Using Government Property

SRS Property Management

1. As an authorized user of government–owned and leased property, you are expected to:

   a. Accept responsibility for all government-owned and leased property assigned for your use and to account for it as if it were your own.

   b. Properly use, protect and safeguard the property.

   c. Report any damage, destruction, abuse or misuse of the property to your management as soon as you become aware of it.

   d. Promptly report any loss, theft or missing property to your management, Property Management and law enforcement upon discovery.

   e. Obtain proper authorization prior to transferring, discarding, dismantling, or otherwise disposing of any government property. Employees are required to check with their management to ensure property disposition actions meet the requirements of the organization's asset management procedural guidance. Removal of government property from the site is prohibited.

      NOTE: Subcontractors may use government furnished equipment (GFE) only when specified in their contracts and authorized through their Subcontract Technical Representative (STR).

2. **Government Property Markings**

   a. Accountable equipment is identified with a bar code label.

   b. "DOE" is stamped or engraved on non-accountable government equipment.

   c. A label stating "Property of the U.S. Government--DOE-SR" is attached to electrical office-type government equipment such as electric staplers, pencil sharpeners, and surge protectors.

   d. Security fluid is placed on tools and equipment and is detectable with ultra-violet light.

3. **Protection of Government Property**

   Protection of government property from theft is an important security responsibility. All facilities in Property Protection Areas must be locked when unoccupied. WSI Law Enforcement personnel conduct routine patrols of areas to ensure they are secured.

   Remember to:

   - Lock building doors that are required to be secured.
   - Maintain accountability of all keys you are assigned.
   - Report the loss of any keys to your supervisor or manager.
   - Turn in any keys you no longer have a need for by returning them to your supervisor, manager, or STR.
   - Do not transfer keys. Keys are accountable through the SRNS Lock and Key Control Office.

4. **Disciplinary action could result from:**

   a. Willful action or inaction resulting in personnel injury or damage to government property.

   b. Taking or receiving, without authorization, property belonging to the company, fellow employees, or the government.

   c. Careless waste of materials or abuse of tools or equipment.

EO 2.06 Given a list of responsibilities, IDENTIFY the employee's responsibilities when transporting government property.

N. Transporting Government Equipment

A Property Pass is required for transporting DOE-SR government-owned property in the following situations:

a. From SRS to offsite facilities

b. Within SRS, in a privately-owned vehicle

Contractor employees may obtain a Property Pass electronically from ShRINE or from their Asset Management Specialist (AMS).

NOTE: Subcontract employees may not be issued Property Passes unless their contract contains a clause stating that they will be provided government-furnished equipment (GFE).

Summary

You are charged with the responsibility for security. Employees are asked to make a commitment to security and to make it a top priority.

Answer the self-check questions below. The answers are in the back of this study guide.

1. Which one of the areas below can you enter without a cleared escort?

   A. Material Access Area (MAA)
   B. Property Protection Area (PPA)
   C. Limited Area (LA)
   D. Exclusion Area (EA)

2. Which item is prohibited and may not be brought onsite?

   A. Cell phone
   B. Ammunition
   C. Two-ounce container of mace
   D. Disposable camera

3. What is a true statement about your responsibilities for driving onsite?

   A. You do not have to report minor traffic accidents to WSI-SR.
   B. You must have an SRS parking permit on your vehicle bumper.
   C. You must wear your seat belt.
   D. You must have only your driver's license with you.

4. If you need to transport DOE-SR property offsite, you must have a valid _____ _____.

   A. Hand Receipt
   B. Security Release
   C. Equipment Checklist
   D. Property Pass

EMERGENCY MANAGEMENT PROGRAM

Enabling Objectives:

EO 3.01 Given a list of purposes, IDENTIFY the purpose of the Emergency Management Program.

EO 3.02 Given a list of elements, IDENTIFY the elements of the Emergency Management Program.

EO 3.03 Given a list of responses, SELECT the appropriate response to a given emergency alarm signal.

EO 3.04 Given a list of definitions, IDENTIFY a remote worker and a non-remote worker.

EO 3.05 Given a list of responsibilities, IDENTIFY the remote worker's responsibilities.

EO 3.06 Given a list of responses, SELECT the appropriate response to a security emergency.

EO 3.07 Given a list of responses, SELECT the appropriate response to a bomb threat.

EO 3.08 Given a list of indicators, SELECT a credible threat indicator.

III. Emergency Management Program

A. Purpose of the Emergency Management Program

EO 3.01 Given a list of purposes, IDENTIFY the purpose of the Emergency Management Program.

The Emergency Management Program is the collection of plans, procedures, equipment, and facilities providing dedicated emergency response personnel the capability to mitigate an emergency to:

- Protect the health and safety of the public and site personnel.
- Protect site property and equipment.
- Protect the environment.

B. Elements of the Emergency Management Program

EO 3.02 Given a list of elements, IDENTIFY the elements of the Emergency Management Program.

The elements of the Emergency Management Program and SRS facilities include:

1. **Emergency Plans**

   a. The Site Emergency Plan is a joint SRNS, WSI-SRS, DOE-SR and DOE-NNSA plan which establishes all SRS Emergency Management requirements for responding to an emergency in an organized and logical manner.

   b. An Area/Facility Emergency Plan defines how a specific area will implement these requirements.

2. Emergency Response Organization (ERO)

The ERO comprises full time DOE-SR, SRNS and WSI-SRS personnel who assume duties assigned according to position/training in Emergency Management, Operations, Environment, Safety, Health, Administration, Public Information, and Security.

3. Facilities

These are buildings where Emergency Response Organization members effectively support emergency operations, mitigate events and coordinate the SRS response to any emergency.

4. Offsite Agencies

a. SRS must work closely with many federal, state, and local agencies to ensure the health and safety of the public.

b. These agencies include DOE-HQ, U.S. Forest Service, Federal Bureau of Investigation (FBI), Environmental Protection Agency (EPA), SC and GA agencies, surrounding counties, fire departments, medical services, law enforcement, etc.

5. Training

Members of the ERO participate in annual training.

6. Drills/Exercises

Drills and exercises test the effectiveness of the Emergency Management Program.

7. <u>Emergency Phone Numbers – SRS Operations Center (SRSOC)</u>

- Onsite: 3-3911
- From a cell phone: 803-725-3911

C. SRS Emergencies

Emergencies that impact the health and safety of workers are specifically defined and categorized by DOE Order 151.1c.

Causes of emergencies include:

1. Industrial accidents resulting in personnel injury or contamination.
2. Faulty or incorrectly operated equipment such as valves, pump motors, etc.
3. Releases of radiological or toxic materials such as benzene, tritium etc.
4. Natural phenomena such as tornadoes, floods, earthquakes, etc.
5. Technological disasters such as transportation crashes, fires, explosions, etc.
6. Security-related events such as bomb threats, intruders, sabotage, etc.

D. Emergency Classification System

1. Emergencies involving a hazardous material release may be further classified as:

a. Alert

There is an actual or potential substantial reduction in safety. Individuals who would need to take protective action are generally those within the facility boundary or within 100 meters of the spill.

b. Site Area Emergency

There is a major failure of functions that are needed to protect onsite personnel, public health, safety and the environment. Individuals onsite who are near or downwind of the emergency need to take protective actions.

c. General Emergency

There is an actual or imminent substantial reduction of the safety system. Site conditions are beyond design characteristics and protective actions are warranted for onsite and offsite populations.

E. Emergency Alarms and Proper Responses

EO 3.03 Given a list of responses, SELECT the appropriate response to a given emergency alarm signal.

1. The following are SRS's safety alarm signals and the generic responses.

NOTE: Specific responses to safety alarm signals may vary in different SRS facilities. Check your Job Performance Aid on ShRINE for details.

EMERGENCY ALARM SIGNALS

Signal	Meaning	Response
Voice Only (No tone)	Important bulletin	Listen for essential information. Follow public address instructions.
WARBLE	Emergency Alarm (Including tornado warnings)	Listen to public address announcement and follow PA instructions. If you cannot hear it, go to a location where you can safely hear the announcement.
ALARM BELL (NIM Alarm)	Nuclear Incident	Evacuate the immediate area, walk briskly and go to designated rally point.
HORN A fire alarm tone may also be a pulsing "chirp" tone.	Fire	Evacuate building, walk briskly to designated rally point or to an upwind location.
VOICE (All clear)	Emergency or drill is over.	Return to your normal work activities.

2. **Protective Actions**

When emergency conditions pose a potential risk to the health and safety of workers, an emergency alarm signal (warble) will be initiated. A public address announcement will then direct site workers to take appropriate protective actions.

There are four types of protective actions.

a. Remain indoors

Personnel will be directed to remain inside, or if outside, to go to the nearest structure and close all doors, windows and shut down ventilation if safe to do so.

b. Shelter

Personnel will be directed to go to a designated shelter (substantial brick or concrete).

Look for the "Shelter Area" sign on the building. This shelter can be used for a hazardous release, but its primary use is for severe weather with high winds or a tornado.

For **severe weather**, you would be advised when to seek shelter. For high wind warnings, leave trailers and vehicles and seek shelter in a building. Butler-type buildings may be used as shelters for high winds but not for tornadoes. For tornado warnings, seek shelter in a designated structure and move to the interior, away from doors and windows.

Based on guidance provided by the National Weather Service, when a **tornado warning** is issued, and you do not have a shelter, or cannot access a shelter in time, you should:

1) Evacuate trailers, prefabricated buildings, or vehicles if a tornado is sighted.

2) Move to an area free of trees and power lines.

3) Locate a depression or ditch that places you lower than the surrounding area, and lie flat.

4) Do not try to outrun a tornado in a vehicle.

NOTE: Trailers and prefabricated buildings are never "designated shelter."

c. Evacuate

Personnel will be directed to go to a rally point: primary, alternate or ad hoc. ("Ad hoc" is a location other than the normal or alternate rally point.)

d. Relocation

Personnel will be moved out of the affected facility/area to an unaffected location onsite.

F. Rally Points

1. Rally points provide an assembly point during an event which requires the evacuation of personnel from a building or area. This is primarily used for a fire, explosion, earthquake, credible bomb threat, or a confirmed explosive device.

2. Rally points support accountability and centralize personnel in a single area, away from the emergency situation.

G. Emergency Response Maps

Emergency Response Maps are posted at all entrances to the areas and in buildings throughout the areas. These maps identify shelters and rally points within the areas.

H. Emergency Information -- Online

Identifies key telephone numbers and checklists for the different areas.

To access:

- Go to the ShRINE homepage
- Click on "Emergencies" in the left corner
- Click on the desired area

I. Remote Worker Safety

EO 3.04 Given a list of definitions, IDENTIFY a remote worker and a non-remote worker

Most people work in locations where they are in range of an installed safety alarm system; that is, where they can hear safety alarm tones and public address announcements. Some workers do not. Those workers in locations where they can't hear alarm signals or PA announcements are considered "remote workers."

The SRS Remote Worker Notification Procedure establishes specific communication and accountability requirements to ensure that workers located in a remote location can be notified of an emergency and can immediately report emergencies.

1. Remote Worker Identification

A remote worker is any worker within the SRS boundaries who is beyond range of an installed Safety Alarm System (SAS) or Public Address (PA) system.

Examples:

- U. S. Forest workers
- Some construction workers
- Some SREL workers
- Environmental workers
- Deactivation and Decommission (D&D) workforce

2. Persons Who Are Not Remote Workers

Persons in transit on site roadways to a location where a SAS or PA system is installed or performing assignments in routinely-occupied buildings with SAS/PA systems are **not** remote workers.

Examples:

- Traveling to and from work.
- Driving from B-Area to 766-H to attend a class.

EO 3.05 **Given a list of responsibilities, IDENTIFY the remote worker's responsibilities.**

3. Remote Worker Responsibilities

a. Test communications equipment before taking it to the field.

b. Ensure communications equipment is turned on and working at the job site

c. Ensure communications equipment can be heard.

d. Report to dispatcher (if applicable) **PRIOR** to going to the work area and when **EXITING** the work area.

e. Report to the dispatcher anytime the remote work location changes.

f. Contact your dispatcher, or 803-725-CALL (803-725-2255) or the SRSOC (803-725-3911) to report location and status in response to an emergency notification broadcast.

4. Remote Worker Reporting Requirements

a. Report to your dispatcher (if applicable) or the SRSOC (803-725-3911) when work is completed and you have returned from the job site for the day.

b. Report to your dispatcher (if applicable) or the SRSOC anytime the remote work location changes.

5. Remote Worker Communication Requirements

Remote workers must carry a site radio **OR** a remote worker pager **AND** cell phone. (A remote worker pager is an alpha-numeric pager capable of receiving an "all call" message from the SRSOC.) This is to ensure the remote worker can receive emergency communications from the SRSOC and report emergencies.

A cell phone alone **DOES NOT** meet the communications requirements. Failure to follow procedures could result in the remote worker being escorted from the site.

J. Security Emergency

EO 3.06 Given a list of responses, IDENTIFY the appropriate response to a security emergency.

1. Respond to an emergency alarm signal or voice announcement given by Wackenhut Services Inc. (WSI) Protective Force personnel.

2. Protective actions may include relocation to a nearby facility or area.

3. If **no instructions are given**, here's what employees in proximity to the event should do:

   a. **If outdoors,** seek shelter in the nearest structure not involved in the event. (This does **not** have to be a designated shelter protection building.)

   b. **If indoors,** lie on the floor, preferably under or behind furniture, display photo badge and follow the instructions of WSI-SRS personnel.

K. Bomb Threats

EO 3.07 Given a list of responses, SELECT the appropriate response to a bomb threat.

1. The proper response to a bomb threat received at SRS is to:

   a. Remain calm; most bomb threats are hoaxes.

   b. Refer to the Bomb Threat Checklist (OSR 10-128), and get as much information from the caller as you can. The checklist is also in the back of this study guide.

   c. Notify the SRS Operations Center (SRSOC) at **3-3911** (from a site phone) or **803-725-3911** (from a cell phone).

2. All bomb threats should be taken seriously and reported to the SRSOC.

L. Credible Threat Indicators

EO 3.08 Given a list of indicators, SELECT a credible threat indicator.

1. If you receive a suspicious package, it is important to report it to the SRSOC. Here are some **credible threat indicators for mail**.

   a. Excessive postage

   b. Unexpected suspect mail

   c. Oily stains, discoloration, leaks or spills appear on package

   d. Misspelling of common words

   e. Addressed to title only

   f. Foreign mail or special delivery

   g. Package is uneven, lopsided or excessively heavy

   h. No return address

   i. Handwritten or poorly typed address

   j. Excessive securing material (masking tape, string)

   k. Strange, oily, or waxy smell

   l. Package has protruding wires or tinfoil

   m. Return address and postmark don't correspond

2. **Credible Indicators for Unattended Packages** (Boxes, briefcases, tool boxes, purses, etc.)

a. Package is near key facility, occupied pathway, or sensitive equipment.

b. Prior threat or related incident has occurred.

c. No markings or identification tags on package.

d. Cannot locate owner.

e. Package is left by person behaving in a suspicious manner.

3. Credible Indicators for Unattended Vehicles

a. Vehicle is left near key facility, occupied pathway or sensitive equipment.

b. Prior threat or related incident has occurred.

c. No marking or license plates on vehicle.

d. Cannot locate owner/driver.

e. Vehicle is left by person behaving in a suspicious manner.

f. Vehicle is stolen or rented.

4. Protective Actions for a Confirmed Bomb Threat or Explosive Device

Protective Actions that may be implemented for onsite employees could include:

a. A general announcement may direct personnel to check their work spaces and look for anything suspicious.

b. Direction to evacuate the entire building or just part of the building.

When you evacuate a building, you will be directed to go at least 900 feet away to an “ad hoc” rally point. (“Ad hoc” rally point is a location other than the normal or alternate rally point.)

c. Direction to evacuate the area completely to another area onsite.

Answer the self-check questions below. The answers are in the back of this study guide.

1. The appropriate response to hearing a warble tone is to _____.

   A. go to the ground floor of the building
   B. evacuate the building to an upwind position
   C. listen for more information over the PA system
   D. get behind or underneath a piece of furniture

2. The fire alarm signal is a _____ .

   A. bell
   B. horn
   C. warble
   D. fast warble

3. Which one of these is considered a remote worker?

   A. An individual cutting grass by the Badge Office.
   B. A person driving from B-Area to the H-Area Central Training Facility.
   C. A U.S. Forest Service worker conducting a prescribed burn.
   D. A person walking on a designated trail at lunchtime.

4. One responsibility of the remote worker is to _____.

   A. ensure his communications equipment is working and turned on
   B. report his location to WSI every two hours
   C. record his mileage to and from the job site
   D. wear an orange safety vest

5. A credible indicator that a package may contain an explosive or chemical device is _____.

   A. the package is unusually heavy or lopsided
   B. the package is wrapped in brown paper
   C. postage is due on the package
   D. the handwriting is not readable

OCCUPANT FIRE SAFETY

Enabling Objectives:

EO 4.01 Given a list of components, **IDENTIFY** the components necessary for a fire to exist.

EO 4.02 Given a list of phases, **IDENTIFY** the phases of a fire's development.

EO 4.03 Given a list of components, **SELECT** the components of building fire protection systems.

EO 4.04 Given a list of responses, **SELECT** the response to a fire alarm in a Halon suppression area.

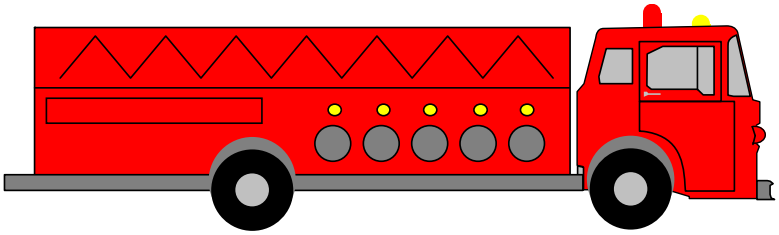
EO 4.05 Given a list of actions, **SELECT** the actions to be taken if you discover a fire or smell smoke.

EO 4.06 Given a list of fuel sources, **IDENTIFY** the class of fire.

EO 4.07 Given a description of a fire, **SELECT** the appropriate fire extinguisher to be used.

EO 4.08 Given a list of actions, **SELECT** the actions described by the acronym "P.A.S.S." for proper fire extinguisher operation.

EO 4.09 Given a list of rules, **IDENTIFY** the safety rules for fighting fires.



IV. Occupant Fire Safety

Each year, thousands of people die in fires. One day, without warning, your life and the lives of others may suddenly depend on how you react to a fire.

If a fire does break out at SRS, you need to know some fundamental fire safety measures and what your responsibilities are. Your knowledge may save lives.

It is the SRS Fire Department's job to fight fires, perform rescues (i.e., high and low angle, confined space, structural collapse, vehicle extrication, trench collapse), provide emergency medical services (EMS), and respond to and mitigate hazardous material incidents.

A. Fire Prevention

Many fires can be prevented. Some of the ways you as an SRS employee can help to prevent fires and avoid unnecessary injuries from a fire are:

1. Limit the amount of ordinary combustibles, such as paper, wood, plastic and cloth that are stored in the workplace.

2. Limit the amount of flammable and combustible liquids, such as fuel oil, grease, paint, and gasoline, that may be used in the workplace.

3. Control ignition sources and use the permit system for Hot Work, such as welding.

4. Keep aisles clear of office machinery, packages and other items which, in the event of an emergency, may limit the means of exiting the facility.

5. Keep building exits clear of machinery, packages, boxes and other items which may limit the means of exiting the facility.

NOTE: Nothing may be stored in stairwells.

6. Keep fire systems, such as fire doors and sprinklers, free from obstacles (e.g., trash bags, recycling boxes, electrical cords, delivery boxes, etc.), so that in the event of a fire, these systems will function properly and help to prevent the spread of fire.

NOTE: Do NOT prop open fire doors and fire exits. Do NOT block sprinkler heads or valve assemblies with any form of material.

In these and other ways, we at SRS can help to prevent fires and make SRS a safer place to work. These same practices can help prevent fires at home, also.

B. Components of a Fire

EO 4.01 Given a list of components, IDENTIFY the components necessary for a fire to exist.

1. Before a fire can start, these four components must exist together.

   a. **Fuel** - (something that will burn)

   b. **Heat**

   c. **Oxygen**

   d. An uninhibited **chemical chain reaction**

2. The best way to prevent fires is to keep all of these components from being in the same place at the same time.

3. The easiest component to keep track of is the **fuel.**

4. Many of the things that you work with every day are combustible (i.e., they can burn). Some examples of combustible items in the workplace are wood, paper, cloth, some liquids (like oil and grease), and certain metals (such as sodium and magnesium).

C. Three Phases of a Fire's Development

EO 4.02 Given a list of phases, IDENTIFY the phases of a fire's development.

There are three phases of a fire's development. Each phase has its own characteristics and inherent dangers. The three phases of a fire's development are:

1. **Incipient** - first phase of a fire. Can be put out easily with a portable fire extinguisher. There is plenty of oxygen present for burning and the temperature is relatively low, but smoke and fire gases are also present.

   This is the **ONLY** phase of a fire that a regular site employee (non-fire fighter) is allowed to fight, if safe to do so.

2. **Free burning** - second phase of a fire. Has plenty of oxygen and a lot of flames and higher temperatures. **Can be fought ONLY by professional fire fighters.** Flashover is possible.

3. **Smoldering** - third phase of fire. It is a slow combustion process characterized by low temperatures and no flaming. The fire is reduced to glowing embers; a lot of smoke and gases are present. The temperature can be above 1,000° F. **Can be fought ONLY by professional fire fighters**. Flashover is possible.

D. Fire Protection Systems

EO 4.03 Given a list of components, SELECT the components of building fire protection systems.

Most SRS buildings have equipment or features for detecting, containing, and/or suppressing fires. The fire protection system installed in each building will contain some combination of:

1. **Automatic Suppression Systems** - sprinklers, Halon, foam, or gaseous agents.

2. **Manual Suppression Equipment** - portable fire extinguishers.

3. **Automatic Detection Systems** - smoke, heat, or flame detectors.

4. **Alarms** - warn the occupants of the building and signal the fire department.

5. **Fire Barriers** - walls, ceilings, floors, doors, windows and air duct dampers designed to keep a fire from spreading.

Every employee has a responsibility to immediately report open or inoperable fire barriers to the facility administrator for corrective action.

E. Carbon Dioxide (CO2) and Halon Fire Suppression Systems

EO 4.04 Given a list of responses, SELECT the response to a fire alarm in a Halon suppression area.

After the 1998 fatality at Idaho National Engineering and Environmental Laboratory (INEEL), due to an inadvertent activation of a carbon dioxide (CO2) fire suppression system, SRS removed the two CO2 systems that had been installed in areas onsite where they posed a possible hazard to personnel.

There are locations onsite where a different gaseous agent, Halon, has been in use for many years. Some of these systems are activated manually and some are activated automatically. **The release of Halon, at fire suppression total flooding design concentrations of 5 – 7%, has little effect on humans.** However, personnel who may be present in areas where Halon could be released need to know what to expect and what they should do.

1. Halon Signs and Postings

Areas protected by Halon suppression systems are clearly marked.

2. Where Halon Systems Are Located

- Computer rooms
- Control rooms
- Under floor areas
- Electrical cells
- Electrical rooms and cabinets

3. Responding to a Fire Alarm in a Halon Suppression Area

a. The release of Halon creates a light mist, but there should be little hazard created because of reduced visibility.

b. The Halon will make a loud hissing sound as it discharges.

c If the Halon is **automatically** activated or **manually** activated at a building pull station, an evacuation alarm – fast warble – will sound. There is a minimum **30-second delay** before the Halon is discharged, to allow safe evacuation.

1) Stop your activities and quickly and orderly exit the area and go outside.
2) Make sure all doors are closed completely behind you.
3) Go to your designated rally point.

d. If the Halon is **manually** activated at the bottles by pulling the pin and pushing the plunger, Halon is **instantly** released. All Halon cylinders are located outside the hazard area. If you manually activate the Halon cylinder, go to your designated rally point after activation.

4. If You Are In the Area of the Halon Discharge

Here's what to do if you cannot exit the area before Halon discharges:

a. **DO NOT PANIC.**
b. Cover your eyes with your hands to shield them from any flying debris, such as paper or dust, caused by the sudden release of Halon from ceiling nozzles.
c. Remain still with your eyes covered until the discharge is over – approximately 10 seconds. The Halon will make a loud hissing noise as it discharges.
d. Be aware that flying debris may linger on in the air. Continue to protect your eyes as necessary.
e. Once the discharge is complete, quickly and orderly exit the area.
f. Close all doors behind you completely.
g. Go to your designated rally point.
h. **Immediately** report your exposure to Halon to management.

F. Employee Actions Upon Discovering a Fire or Smelling Smoke

EO 4.05 Given a list of actions, SELECT the actions to take if you discover a fire or smell smoke.

Get help on the way first and alert your co-workers.

1. Telephone

   a. Call the SRSOC at 3-3911 or 803-725-3911. Use a phone outside the building, if possible. Do not use a phone in the vicinity of the fire.

   b. If you are outside, and there is no phone available, go to the nearest building or the nearest barricade or go to the nearest road and flag down a vehicle. Stay near the road to direct the Fire Department to the fire.

   c. Provide the dispatcher with the fire's location, nature of the fire, if known, and any additional information requested.

d. Stay calm, speak clearly, and let the dispatcher end the conversation.

e. Request someone to wait, or you can wait for and direct emergency responders to the facility or area involved.

2. Building Pull Station

Locate and activate a building pull station, if your building has them, only if it is safe to do so. These will normally be located at the exits.

G. Employee Actions Upon Hearing a Fire Alarm

1. When you hear a fire alarm, evacuate the building using the nearest exit away from the fire and move to an upwind location, or a designated rally point.
2. Once you are outside the building, watch for the fire trucks and stay out of the way.

H. Classes of Fire

EO 4.06 Given a list of fuel sources, IDENTIFY the class of fire.

To ensure proper use of extinguishers on different classes of fires, fires have been classified into the following four categories:

1. **Class A Fires** involve ordinary combustibles such as paper, wood, cloth and rubber. An extinguisher with a green triangle and the **A** symbol, or a trash can graphic, should be used on this kind of fire.

2. **Class B Fires** involve flammable/combustible liquids, gases and greases, such as gasoline, fuel oil, grease, and paint. An extinguisher with a red square and the **B** symbol, or a gasoline can graphic, should be used.

3. **Class C Fires** involve **energized** electrical equipment. Water should not be used on these fires because water conducts electricity. An

extinguisher with a blue circle and the **C** symbol, or electric plug graphic, should be used on electrical fires.

4. **Class D Fires** involve combustible metals such as magnesium, sodium, and potassium. Dry powders are used to put these out. Anything else could increase the chemical reaction or be ineffective. An extinguisher with a yellow star and the **D** symbol should be used on metal fires. **DO NOT USE WATER!!!**

If you know what the class of the fire is, then you will be able to choose the correct fire extinguisher.

EO 4.07 Given a description of a fire, SELECT the appropriate fire extinguisher to be used.

I. Multi-Purpose Extinguishers

1. Multi-purpose extinguishers are the most common type provided in facilities.

2. Extinguishers with the symbols **A, B, C,** or trash can, gasoline can, and electric plug graphics, may be used only on Class **A, B, or C** fires.

3. Extinguishers with the symbols **A, B,** or the trash can and gasoline can graphics, may be used only on Class **A or B** fires.

4. Extinguishers with the symbols **B, C,** or the gasoline can and electric plug graphics, may be used only on Class **B or C** fires.

5. Extinguishers with the symbol **D** may be used only on Class **D** fires. These extinguishers are usually yellow.

Note: Check the fire extinguishers in your work area so you will know where they are located and what class of fire they are approved to be used on.

J. Successful Use of Portable Fire Extinguishers

1. If the class of fire can be identified and a suitable portable fire extinguisher is available, then an individual may choose to try to extinguish a fire in its **incipient** phase, if safe to do so. The fire extinguisher is only the initial line of defense against a fire. **ALWAYS** make notification and get help on the way first.

2. Portable fire extinguishers are located throughout the facilities onsite. Successful use of portable fire extinguishers depends on the following conditions:

   a. The extinguisher is the proper type for the fire.

   b. The person is ready, willing, and possesses the knowledge to properly use the extinguisher.

K. Fire Extinguisher Operation

EO 4.08 Given a list of actions, SELECT the action described by the acronym "P.A.S.S." for proper fire extinguisher operation.

To quickly put out small incipient fires, portable fire extinguishers must be used properly. **Remember,** the fire extinguisher is only the initial line of defense against a fire. Always make notification and get help on the way **first.** You can use a fire extinguisher properly by following the steps represented by the acronym **"P.A.S.S."**

1. **Pull** the pin.

2. **Aim** the nozzle at the base of the fire.

3. **Squeeze** the handle completely.

4. **Sweep** the nozzle rapidly from side to side, beginning at the front of the fire and working toward the back of the fire.

L. Safety Rules for Fighting a Fire

EO 4.09 Given a list of rules, IDENTIFY the safety rules for fighting fires.

Even if you decide initially to fight a fire, you are free to stop and leave at any time. Although remembering the word "PASS" will help you through the physical operation of most portable extinguishers, you must always put safety first when considering whether or not to fight a fire. Safety rules to follow include:

1. Never turn your back on a fire.

2. Always approach a fire upwind so the wind blows the fire and smoke away from you to prevent your breathing any toxic gases that may be present.

3. Always keep an exit behind you. If the fire gets out of control, you will have a means of escape.

4. If your extinguisher starts to run out of agent, you should continue to sweep the fire and back away from the flames.

5. Smoke and deadly gases will fill the room from the ceiling down. The best air will be several inches off the floor. Get down on your hands and knees and crawl quickly to the exit.

6. If you started to fight a fire – in the incipient phase only – but you start feeling unsure of yourself, or you think the fire is spreading, just **GET OUT!!!**

Summary

Fires happen without warning. Remember to summon emergency response personnel as soon as possible. Report all fires, no matter how small.

Answer the self-check questions below. The answers are in the back of this study guide.

1. The four components necessary for a fire to exist are _____, _____, _____, and _____.

2. Which extinguisher should you use on an electrical fire?

   A. A, B
   B. D
   C. E
   D. B, C

3. An office trash can fire is a Class ____ fire.

4. Which one is a safety rule for fighting a fire?

   A. Make sure you have a co-worker help you.
   B. Close the door to keep the fire from spreading.
   C. Have an exit behind you and back toward the exit.
   D. Always wear a face mask.

5. For proper fire extinguisher operation, what does the acronym PASS stand for?
   _____, _____, _____, _____.

6. The most common alarm tone for a fire is a _____.

   A. bell
   B. fast warble
   C. slow warble
   D. horn

V. General Employee Radiological Training (GERT)

10 CFR 835 states that each individual shall complete radiation safety training commensurate with the hazards in the area and the required controls before being permitted unescorted access to controlled areas and before receiving occupational dose during access to controlled areas at a DOE site or facility.

In the Controlled Area, you may encounter radiological barriers, postings, radiation producing devices, or radioactive materials. Your responsibilities for observing and obeying these barriers, postings, and procedures are emphasized throughout this training.

Terminal Objective

Given a Controlled Area at the Savannah River Site, ENTER this area following your responsibilities for maintaining exposures to radiation and radioactive material As Low As Reasonably Achievable (ALARA).

These responsibilities are identified in the SRNS Radiological Control Manual and other implementing procedures such as 5Q1.1, Procedure 509.

Enabling Objectives

EO 5.01 Given a list of risks, COMPARE the potential risks from occupational exposure to other acceptable risks.

EO 5.02 Given a list, IDENTIFY those items that are sources of natural background and man-made sources of radiation.

EO 5.03 Given a list of whole body radiation dose control limits, SELECT the control limit for a general employee.

EO 5.04 Given a list, IDENTIFY the methods used to control radiological material.

EO 5.05 Given a list of areas, SELECT the areas that GERT will allow you to enter without a radiological worker escort.

EO 5.06 Given different contamination monitoring equipment, IDENTIFY the proper use of the monitor in accordance with the procedures.

EO 5.07 Given a list of responsibilities, IDENTIFY your responsibilities for the Site's Radiological Protection Program.

GERT Retraining

GERT is required by federal law every two years. You will receive GERT in your refresher GET, Consolidated Annual Training (CAT), every year.

Maintain Radiation Exposures ALARA

Even though the mission at SRS has changed from production to waste management and environmental restoration, the SRS policy for protecting employees, visitors, the general public, and the environment has not changed.

It is and always has been SRS's policy to maintain personnel exposure to radiation and radioactive materials at a level that is As Low As Reasonably Achievable (ALARA). Radiation exposure of the work force and public shall be controlled such that exposures are well below regulatory limits and that there is no radiation exposure without an overall benefit.

Additional Training

Additional training beyond GET is required for the employees who are identified as radiological workers. Every employee, both radiological worker and non-radiological worker, must play an active part in maintaining exposures to radiation and radioactive materials within DOE limits and As Low As Reasonably Achievable (ALARA).

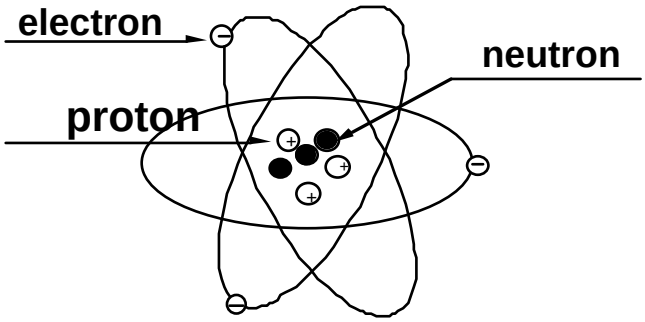
Definitions

It is important for you to know that as a general employee, you will probably **NOT** be exposed to radiation, radioactive materials, or radioactive contamination.

Radiation is energy from unstable atoms emitted through space and matter.

Radioactive material is material that contains unstable atoms.

Radioactive contamination is radioactive material where you don't want it to be.



Parts of the Atom

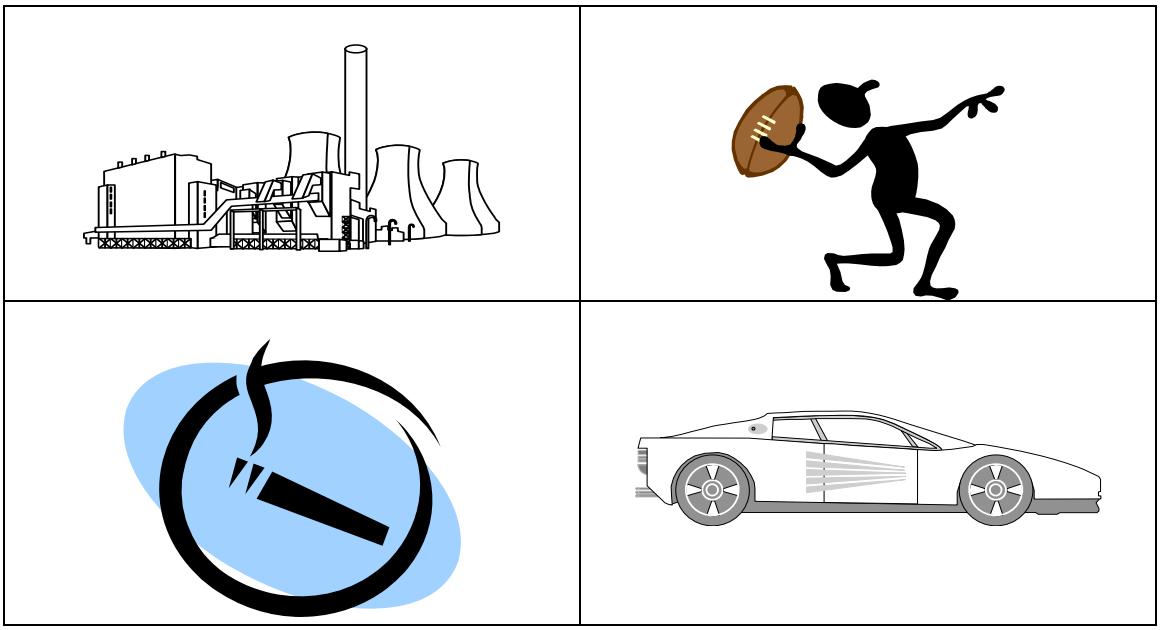
Ionizing radiation is energy released from unstable atoms that may remove electrons from neutral atoms.

There are four basic types of ionizing radiation: alpha particles, beta particles, neutron particles, and gamma rays.

Non-ionizing radiation does not have enough energy to remove an electron from an atom. Types of non-ionizing radiation include microwaves, radio waves, visible light, heat, and infrared radiation.

Risks in Perspective

Even though we know that there are many benefits associated with radiation and radioactive materials, accepting a risk of any kind, such as smoking, driving a car, working at a nuclear facility, or playing football, is a highly personal matter. The Site's policy that no radiation exposure will be permitted without an overall benefit is important to minimizing any risk associated with working at SRS.



Risk Comparison

	EO 5.01	**Given a list of risks, COMPARE the potential risks from occupational exposure to other acceptable risks.**

Risks associated with occupational exposures **are low when compared to other risks from normal day-to-day activities.** Occupational radiation doses are considered to be chronic doses. A chronic radiation dose refers to small amounts of radiation received over a long period of time.

Biological Effects

Biological effects from chronic radiation doses may occur, although the risks are very small. These effects may show up in the exposed individual or in the future children of the exposed individual.

"Exposed individuals" have a slight risk that cancer may develop due to chronic radiation doses. This risk is small when compared to the natural occurrence of cancer. The high cancer incidence rate in the population makes it difficult to measure the additional risk of fatal cancers due to low-level radiation exposure.

Using data furnished by the National Academy of Sciences, a single whole body dose of 10,000 millirem delivered to a large population of persons of all ages could result in an increased risk of fatal cancers of less than 1 percent. The **millirem** is a unit used to express how much radiation we receive.

As for future children of the exposed individual, genetic effects have been extensively studied in plants and animals, but there have been no genetic effects clearly caused by radiation observed in human populations.

Sources of Radiation

EO 5.02 **Given a list, IDENTIFY those items that are sources of natural background and man-made sources of radiation.**

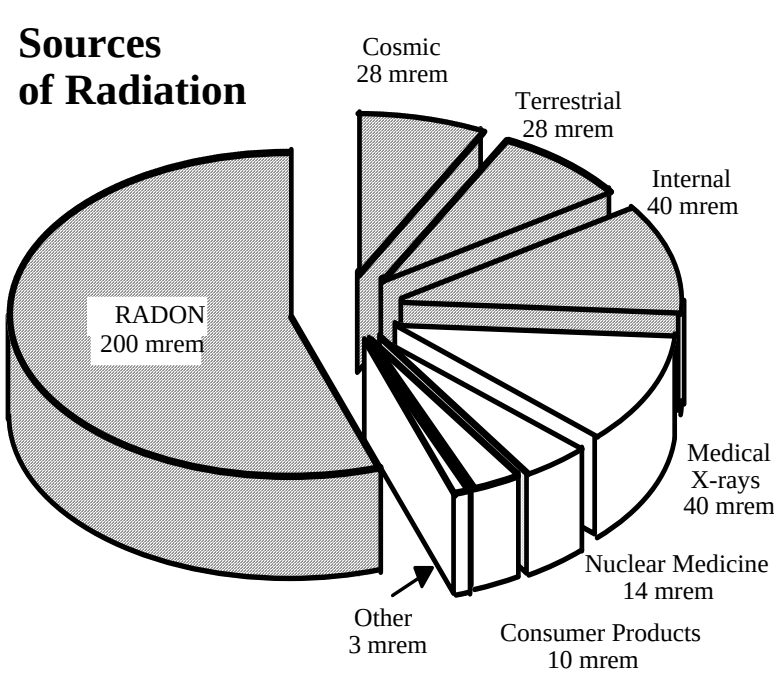
Our occupational exposure is not the only example of a chronic radiation dose. Another example of a chronic radiation dose is what we receive from natural background sources of radiation. We are also exposed to man-made sources of radiation.

Natural Background

- Cosmic radiation- Sun and outer space
- Radon (a gas)
- Earth's crust- Rocks/soil
- Materials in our bodies such as Potassium-40

Man-made sources

- Medical uses - x rays and nuclear medicine
- Consumer products, such as smoke detectors, tobacco products and exit signs that glow in the dark



Average annual dose

The general public receives about 360 millirem/year from natural background and man-made sources of radiation.

Natural background	
• Radon in homes	200 mrem/year
• Sources in the earth's crust	28 mrem/year
• Cosmic radiation	28 mrem/year

Other sources:	
• Domestic round trip flight	5 mrem
• Smoke detectors	0.0001 mrem/year
• Chest x-ray	8 mrem
• Cigarette smoking (1 pack a day)	1300 mrem/year
• Living in a brick house	7 mrem/year
• Watching TV	< 1 mrem/year
• Daily dose from natural background	1 mrem/day

Tracking Occupational Dose

Thermoluminescent Dosimeter (TLD)
Occupational doses at SRS are measured and documented. Individuals who must enter certain areas controlled for radiological purposes wear a device called a thermoluminescent dosimeter (TLD). The TLD is used to measure the amount of radiation an individual has received. A TLD is not required in the Controlled Area.

Wearing a TLD
When a TLD is required, it is worn in the chest area and is attached to the security badge.

Obtaining a TLD
Personnel can obtain a TLD from Radiological Protection personnel prior to entering an area where a TLD is required. The TLD is returned to Radiological Protection personnel when no longer needed or during the end of the quarterly TLD monitoring cycle badge change out.

ProRad System

ProRad is a database that allows personnel to sign in and sign out of radiological areas electronically. It provides documentation that the individual has read, understood, and will comply with the requirements of the Radiological Work Permit (RWP).

Also, the electronic sign-in and sign-out provide a method to record the time worked and track the exposure received by the workers.

Site ID Badge

Individuals needing access to radiological areas use the Site ID badge to obtain dosimetry and enter the radiological areas.

Other Types of Dosimetry

Criticality Neutron Dosimeters (CNDs) are used to measure dose from neutron and gamma radiation in the event of a criticality accident. CNDs are worn by personnel who enter areas where nuclear incident monitoring is required. Nuclear incident monitoring is required when handling and storing fissile material. Examples of fissile material are Uranium and Plutonium. Radiological Protection personnel will issue a CND to you if you need one.

Employees are advised not to take CNDs home. If taken home, the CND should be kept where children cannot access it. The CND contains materials that could be hazardous if ingested or inhaled. CND contents may cause skin or eye irritation or burns if direct contact occurs.

Personnel Dose Limits

EO 5.03	**Given a list of whole body radiation dose control limits, SELECT the control limit for a general employee.**

Since there may be risks involved from chronic doses of radiation, there are limits and special policies put in place as to the amount of radiation workers may potentially receive.

General Employee Radiation Dose Limit

The DOE whole body radiation dose limit for the general employee (a non-radiological worker) is 5000 mrem/year.

However, at SRS, a general employee (non-radiological worker) is administratively controlled to **100 mrem/year.**

Embryo/Fetus

Because a developing embryo or fetus is especially sensitive to radiation, a special policy is in place. Radiation doses to the embryo or fetus may increase the chances that the child will have slower mental growth, low birth weight, a small head size, or childhood cancer. This is one of the reasons why routine x-rays are no longer used on pregnant workers. It is also important to note that these effects can be caused by many other hazards or factors in our environment such as smoking, drinking, or the age of the woman during pregnancy.

Special Policy for a Declared Pregnant Worker

After a female radiological worker voluntarily notifies her employer, in writing, that she is pregnant, she is considered a declared pregnant worker. The employer then provides the option of a mutually agreeable assignment of work tasks, without loss of pay or promotional opportunity, such that further occupational radiation exposure is unlikely. This declaration is for the purposes of fetal/embryo dose protection. It should be noted that the declaration may be revoked, in writing, at any time by the declared pregnant worker.

Access to Exposure Reports

Employees who are trained only at the GERT level are not expected to receive occupational dose above the site allowed 100 mrem/year; however, they may be monitored for exposure due to escorted entries into radiological areas. If you are monitored for exposure, you have the right to request reports of that exposure.

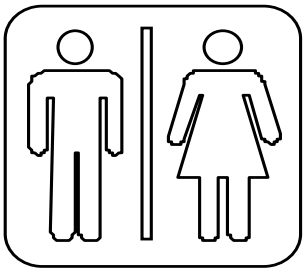
- If you have a computer account, you can look up your dose history on ShRINE by going to your name and then clicking on "View Radiological Status."
- Upon request, an employee may receive a current radiation exposure report by contacting Radiological Protection personnel.
- Monitored personnel will receive an annual report of their exposure.
- Upon termination, a report of radiation received will be available within 90 days.

NOTE: Individuals who have received radiation exposure at facilities away from SRS should arrange for those dose records to be sent to the SRS Dosimetry Records Coordinator.

Methods Used to Control Radiological Material

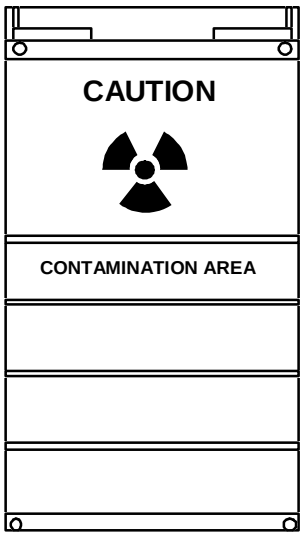
EO 5.04 **Given a list, IDENTIFY the methods used to control radiological material.**

Just as there are signs that we see in our daily lives that help control access to areas or regulate our driving habits, SRS uses signs and specific barriers to control access to various areas controlled for radiological purposes.



Radiological Signs and Barriers

Signs that have the standard radiation symbol colored magenta or black on a yellow background are used to identify radiological areas and radioactive material. Yellow and magenta rope, tape, chains or other barriers also designate the boundaries of these areas.



Special Packaging

Yellow plastic wrapping or a labeled container is used to package radioactive material. **Yellow plastic sheets cannot be used for non-radiological purposes.**

Designated Storage Areas

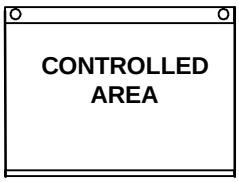
We use designated areas to store radioactive material. In areas that have radioactive contamination, protective clothing and equipment are used to prevent personnel contamination.

Each type of radiological area will be posted as to whether the area has a radiation hazard and/or a contamination hazard.

Areas a General Employee CAN Enter Unescorted

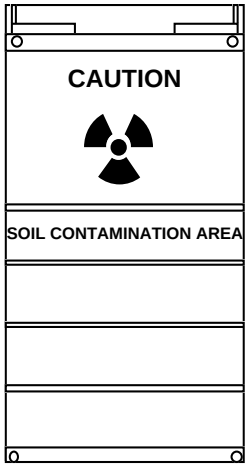
EO 5.05 **Given a list of areas, SELECT the areas that GERT will allow you to enter without radiological worker escort.**

As a general employee, you can enter these areas without a radiological worker escort or any type of radiological controls.



An area established around radiological areas to manage personnel access to the radiological areas and to provide warning of the existence of radiological hazards in the area.

An area that is established to indicate areas that may contain underground radioactive items. You may enter this area if it is outside the ***Radiological Buffer Area (RBA)*.***



An area where surface or subsurface contamination levels exceeded specified limits. You may enter this area if it is outside the ***Radiological Buffer Area (RBA)*.*** *Any work that disturbs the soil requires RW II training.*

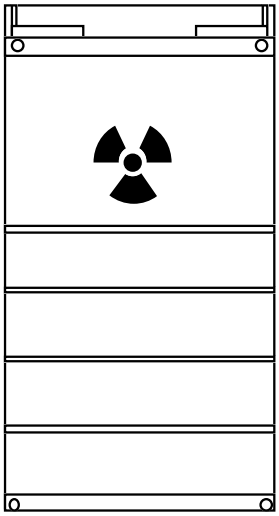
*** Radiological Buffer Area (RBA)**

A Radiological Buffer Area is an intermediate area established to:

- Prevent the spread of contamination.
- Protect personnel from radiation exposure.
- Provide a buffer area between Controlled Areas and radiological areas.

Remember, if the URMA and SCA are located inside the RBA, you must be escorted by someone who can enter the RBA unescorted.

Areas a General Employee CANNOT Enter Unescorted



GERT will NOT allow unescorted access to:

Radiological Buffer Area (RBA)
Radioactive Material Area (RMA)
Radiation Area (RA)
Contamination Area (CA)
Inactive Contamination Area (ICA)
High Radiation Area (HRA)
High Contamination Area (HCA)
Inactive High Contamination Area (IHCA)
Airborne Radioactivity Area (ARA)
Very High Radiation Area (VHRA)
Radiography Area

Escorted Access

You may be permitted to enter some of these areas with an escort. If you need to enter these areas with an escort, here's what you must do.

Area	Approval Requirements for Escorted Access
RBA **RMA** **Radiation Area** **Contamination Area**	For observations and recording of data, you must be continuously escorted and follow all entry requirements. Access to an RA or CA shall be approved in advance by the Area Radiological Protection Manager. Any "hands-on" work in all these areas shall be approved in advance by the Area Radiological Protection Manager.
High Radiation Areas **High Contamination Areas** **Airborne Radioactivity Areas**	Prior approval from the Radiological Protection Department Manager is needed.
Very High Radiation Areas **Radiography Areas**	Under no circumstances can you, as a general employee, enter a Very High Radiation Area or a Radiography Area.

Contamination Monitoring Equipment

EO 5.06 **Given different contamination monitoring equipment, IDENTIFY the proper use of the monitor in accordance with the procedures.**

In certain areas, or situations, it may be necessary for you to use contamination monitoring equipment. The purpose of this equipment is to detect contamination on personnel. In some cases, you will be required to use a PCM-1B or PM-6A. These are used at exits to various areas to help control the spread of radioactive material. Both monitors provide a quick and reliable level of external contamination detection.

PCM-1B

The PCM-1B is engineered to perform two counts: a right-sided count and a left-sided count. Follow these guidelines for using a PCM-1B. 1. Read the instructions before stepping into the machine. 2. Verify the machine is ready by looking at the overhead panel. It will indicate that the monitor is ready. 3. Position body correctly. Make sure the body is positioned so any material emitting alpha radiation can be detected. 4. Do a complete cycle. A cycle is complete when both sides have been counted.	• Monitor right side first • Make sure body is completely in the machine • Make sure foot is on detector • Keep your body and face as close to the detectors as possible • Lean body in toward the detectors • Lean or turn face toward the detectors

Alarm Condition

If you are contaminated, the PCM-1B will alarm. An audible signal, which is a continuous beep, can be heard and a visual signal, which is displayed on the overhead panel, can be seen.

Response to alarm

- ♦ Complete the entire cycle.
- ♦ Re-monitor on an alternate PCM-1B, or the same PCM-1B, two additional times. If an alarm sounds on either two re-monitorings, then contact Radiological Protection immediately.

PM-6A

Another type of contamination monitor is the PM-6A. The PM-6A is engineered to perform one count versus two counts. The following guidelines should be used.

- Read the instructions before stepping into the machine.
- Verify the machine is ready by looking at the overhead panel. It will indicate that the monitor is ready.
- Place hands in hand pods and make sure your feet are on the detectors. Keep hands still in the hand pods.

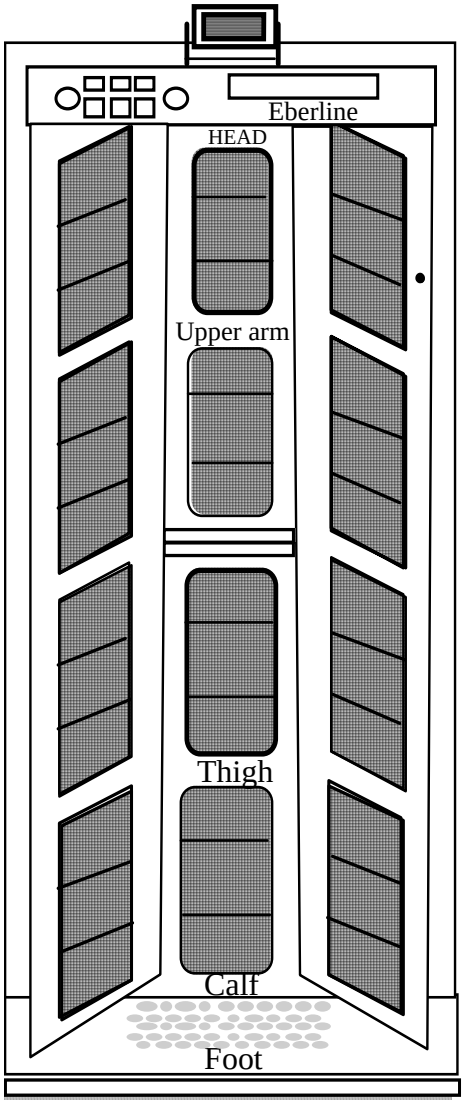
Alarm Condition

If you are contaminated, the PM-6A will alarm. An audible signal, which is a continuous beep, can be heard and a visual signal, which is displayed on the overhead panel, can be seen.

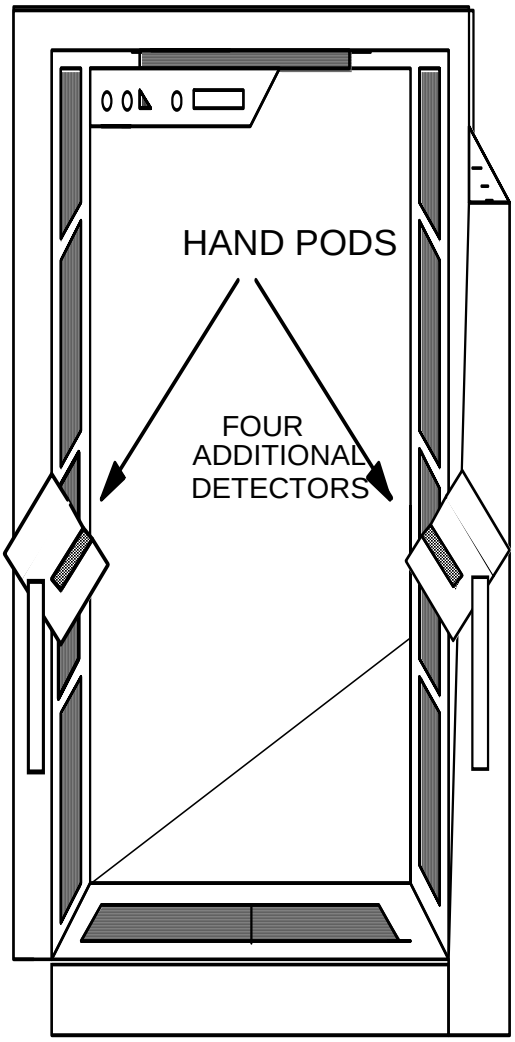
Response to an Alarm

- ♦ Complete the count.
- ♦ Re-monitor on an alternate PM-6A or the same one two additional times. If an alarm sounds on either two re-monitorings, then contact Radiological Protection immediately.

PCM-1B


Eberline
HEAD
Upper arm
Thigh
Calf
Foot

PM-6A


HAND PODS
FOUR
ADDITIONAL
DETECTORS

Responsibilities

EO 5.07	**Given a list of responsibilities, IDENTIFY your responsibilities for the Site's Radiological Protection Program.**

You're probably saying to yourself right about now, "This is a lot of information to remember for someone who isn't going to be exposed to radiation or radioactive materials!"

A positive radiological attitude is not limited to those who perform radiological work. All employees have an impact on maintaining exposures to radiation and radioactive material As Low As Reasonably Achievable. Everyone must develop a sense of pride and ownership toward our daily activities and have a healthy respect, not a fear, for the type of work performed at SRS.

Employee Responsibilities

- Read and obey all signs and postings.
- Comply with all radiological and other safety rules.
- Do not enter any area controlled for radiological purposes unless escorted or trained.

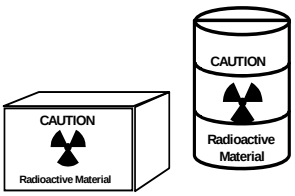
  Here are some rules if you are being escorted:

  1. Obey the instructions of your escort. Your escort will inform you of any entry procedures requiring a Whole Body Count (WBC), submitting bioassay samples, or signing in on a Radiological Work Permit (RWP). The WBC and bioassay samples are used to find out if any radioactive material is inside your body.

  2. Use ALARA techniques while in the area to minimize your exposure. These would include minimizing your time in the area or maximizing your distance from a source of radiation.

- Be alert for and report unusual radiological situations. An unusual situation might be finding radiological material outside a designated area or finding a compromised radiological barrier.

If you discover radiological material that appears to be unattended (e.g., discarded in a trash receptacle or loose outside or in a building corridor), take the following actions:



DO NOT touch or handle the material. Warn other personnel not to approach the area. Guard the area. Have someone notify RCO personnel. Wait for RCO personnel to arrive before leaving the scene.

- Know where and/or how to contact RCO personnel in your work area.
- Comply with emergency procedures for your work area.
- Keep exposures to radiation and radioactive materials ALARA.
- Know your dose history.

Summary

This concludes the GERT portion of your training. Please remember that as an employee, it is important to be aware of potential risks and to take appropriate protective measures to minimize the risks. Through an enhanced awareness and a sense of personnel responsibility and ownership, you will contribute to safe ALARA practices.

	*Answer the self-check questions below. The answers are in the back of this study guide.*	

1. How do the risks from working in the nuclear industry compare to other risks we accept on a daily basis?

   A. The risks from working in the nuclear industry are lower.
   B. The risks from working in the nuclear industry are higher.
   C. The risks are the same.
   D. The risks from working in the nuclear industry are higher if the person is over 50.

2. Which answer contains only natural background sources of radiation?

   A. Radon, cosmic, medical x-rays
   B. Cosmic, nuclear medicine, the human body
   C. Nuclear testing, radon, smoke detectors
   D. Cosmic, radon, the earth's crust

3. Which answer contains only manmade sources of radiation?

   A. Smoke detectors, medical x-rays, nuclear medicine
   B. Radon, exit signs, smoke detectors
   C. Cosmic, nuclear medicine, radon
   D. Earth's crust, radon, cosmic

4. What is the administrative radiation control limit at SRS for a general employee, someone not trained as a radiological worker?

   A. 100 mrem/year
   B. 750 mrem/year
   C. 2,000 mrem/year
   D. 5,000 mrem/year

5. What is a method used to control radiological material?

   A. Storing radiological material in clear plastic containers
   B. Posting radiological signs colored yellow and magenta
   C. Posting radiological signs colored orange and white
   D. Storing radiological material in F-Area only

6. Joe is a subcontractor who assists with site landscaping. He is not a radiological worker. With the GERT he received in GET, what area can he enter without radiological worker escort?

   A. Radiological Buffer Area
   B. Inactive Contamination Area
   C. Controlled Area
   D. Radiation Area

7. Which item is used to detect radioactive material on the outside of your body?

   A. WBC
   B. PCM-1B
   C. TLD
   D. ECA

8. While you were using the PM-6A, the alarm sounded. What action should you take?

   A. Complete the count and report to your supervisor.
   B. Re-monitor two additional times on that monitor.
   C. Immediately contact Radiological Protection personnel.
   D. Monitor at the nearest Count Rate Meter.

9. As a general employee – non-radiological worker -- what is your responsibility to the site's Radiological Protection Program?

   A. Keep your radiation exposure as low as reasonably achievable (ALARA)
   B. You do not have any responsibility because you are not a radiological worker.
   C. Wear a TLD when you go to the Training Center, 766-H.
   D. Complete Radiological Worker I training.

10. For the past two months, you have been working unescorted by a radiological an area posted as a "Soil Contamination Area." Today you notice that the posting has been changed. It now reads, "Radiological Buffer Area, Soil Contamination Area." What should you do?

    A. Enter the area as usual and continue working on your task.
    B. Request permission to enter from your Environmental Compliance Authority.
    C. Tell your supervisor so he can arrange Radiological Worker escort for you.
    D. Contact the Industrial Hygiene office for permission to enter the area.

MISCELLANEOUS POLICIES AND PROCEDURES

Enabling Objectives:

EO 6.01 Given a list of responsibilities, IDENTIFY the responsibilities of the Subcontract Technical Representative (STR).

EO 6.02 Given a list of responsibilities, IDENTIFY the employee's responsibilities to procedure compliance.

EO 6.03 Given a list of statements, SELECT the statement that defines the purpose of the SRS Quality Assurance Program.

EO 6.04 Given a list of responsibilities, IDENTIFY the employee's responsibilities under the Stop Work Program.

EO 6.05 Given a list of statements, SELECT the statement that defines the Price-Anderson Amendments Act.

EO 6.06 Given a list of examples, IDENTIFY the example of noncompliance with the Price-Anderson Amendments Act.

EO 6.07 Given a list of statements, SELECT the statement that defines Fitness for Duty.

EO 6.08 Given a list of responsibilities, IDENTIFY the SRS Employee Concerns Program responsibilities.

EO 6.09 Given a list of methods, SELECT the appropriate method for reporting employee concerns.

VI. Miscellaneous Policies and Procedures

All individuals with an SRS photo security badge are responsible for performing their work in compliance with SRS policies and procedures. Job-specific and facility-specific policies and procedures will be provided to you once you report to the job site.

A. Subcontract Technical Representative (STR)

EO 6.01 Given a list of responsibilities, IDENTIFY the responsibilities of the Subcontract Technical Representative (STR).

1. The Subcontract Technical Representative (STR) is an individual who is nominated by a Level 3 Manager and then appointed by the buyer to serve as the technical liaison between an SRS contractor and the subcontractor. While the STR represents the interests of the department who established the requirement, he or she also represents the interests of Procurement in making sure the subcontractor fulfills its obligations.

2. **Duties and responsibilities of the STR**:

   a. Serves as the technical liaison.

   b. Monitors subcontractor performance.

   c. Inspects work for acceptability.

   d. Reviews invoices and comments on chargeability.

   e. Establishes and tracks cost and schedule.

   f. Analyzes subcontractor progress from cost and technical perspectives.

   g. Prepares written evaluation of subcontractor's performance.

B. Procedure Compliance

EO 6.02 Given a list of responsibilities, IDENTIFY the employee's responsibilities to procedure compliance.

1. SRS is committed to **100% compliance** with procedures.

2. 100% procedure compliance requires that all steps in a procedure be followed exactly as written.

3. There are **only two exceptions** to this rule:

   a. If you find it is unsafe to follow the procedure, stop work when it is safe to do so, and report your concern to your supervisor or STR.

   a. If you discover an administrative error in the procedure, bring it to your supervisor's attention immediately.

C. SRS Government Telephones

1. SRS employees are permitted to use government telephones for local personal business.

   a. Calls should be limited in both frequency and duration.

   b. Charge personal long-distance calls to your calling card, credit card or home phone.

   c. SRS employees should not accept collect calls.

2. Site employees are to make use of the 800 toll free number (**800-278-5009)** instead of calling the site collect. Examples of legitimate uses for the 800 number are:

   a. Calling work to report a personal emergency affecting your work attendance when the call is long-distance.

   b. Calling work while on business travel when you cannot use another approved method of calling.

3. Do **not** use the 800 number if:

   a. You are not a site employee (vendors may not use this number).

   b. The call is a "local" call for you to make.

   c. The call is personal business with co-workers.

   d. The call is personal business with site groups, such as Operations Recreational Association (ORA), SRP Federal Credit Union, Savings Investment Plan, etc.

4. To use the 800 service (legitimate calls ONLY), follow these instructions:

   a. Dial **1-800-278-5009**. This call will be answered by the SRS Auto Attendant System. If you have an authorization code, the call can be processed directly. (Authorization codes can be obtained from your telephone administrator.)

   b. If you do not have an authorization code, then follow instructions and enter "0." You will be routed to the SRS operator at which time you will inform the operator that you are using the 800 number.

   c. Provide the operator with your name and organization.

   d. Request to be transferred to the person you need to speak with by stating, "Please transfer me to telephone number x-xxxx." The operator will only transfer you to a valid SRS telephone number (prefixes 725, 557, 952, or 208).

D. Quality Assurance Program

EO 6.03 Given a list of statements, SELECT the statement that defines the purpose of the SRS Quality Assurance Program.

1. The SRS Quality Assurance Program is a management system that provides the controls for managing, performing and assessing work. It is designed to protect workers and the public. This program holds individuals responsible for the quality of their work; it applies to everyone.

2. The purpose of the QA Program is to provide the framework for achieving continuous quality improvement by:

   - Ensuring that risks and environmental impacts are minimized.
   - Ensuring that safety, reliability, and performance are maximized.
   - Empowering employees to look for better, safer, and more efficient ways of doing their work.

   The QA Program is consistent with, and an integral part of, the SRS Integrated Safety Management System (ISMS). The Quality Assurance Manual, 1Q, describes the Quality Assurance Program.

3. It is management's obligation to ensure that employees understand what is being asked of them. However, each employee must take responsibility for the work he performs. Everyone contributes to quality and to meeting the performance objectives established by management.

4. Management must provide employees with the necessary information, tools, training, and support to perform their tasks properly. Employees must possess the knowledge of management's expectations, the knowledge of why the task is being performed, and empowerment to carry out assigned tasks.

5. Management encourages individuals to look for better, safer, and more efficient ways of accomplishing their work. Through empowerment, employees have a personal stake in the organization's success and, as a result, products and services will improve.

E. Stop Work Program

EO 6.04 Given a list of responsibilities, IDENTIFY the employee's responsibilities under the Stop Work Program.

The Stop Work Program is a formal program.

1. Personnel shall stop work if an activity would result in one or more of the following:

   a. Nonconforming or indeterminate item

   b. Conditions outside of normal limits or technical specifications

   c. Hazardous conditions to personnel

   d. Damage to equipment or facilities

   e. Equipment or items with a QA Hold Tag are in use

   f. Work that has been stopped by a written Stop Work Order shall not be resumed until the problem is corrected and verified by the Cognizant Quality Function (CQF). The CQF is the person or group designated responsibility for quality assurance support to a business unit, department, or other organizational unit.

   g. Any employee who identifies conditions adverse to quality shall notify his supervisor or his Subcontract Technical Representative as soon as possible.

      All employees have the right and responsibility to stop work if a condition or activity is harmful to safety, health or the environment!

2. Remember, you are expected to fully understand the scope of your work and to be aware that working outside that scope is unsafe.

3. Do not violate a Stop Work Order or perform any actions outside the scope of work.

4. Take a time out if continuing a task is unsafe or will create an unsafe condition.

5. Report unsafe conditions immediately to your supervisor or STR.

F. Price-Anderson Amendments Act

EO 6.05 Given a list of statements, SELECT the statement that defines the Price-Anderson Amendments Act.

1. The Price-Anderson Amendments Act (PAAA) is a federal law, enacted by Congress in 1988, that subjects DOE contractors, subcontractors and suppliers to civil and criminal penalties for violations of DOE Rules, Regulations, and Orders related to **nuclear safety**.

2. The purpose of the nuclear safety requirements is to minimize the risk to workers and the public by ensuring that DOE nuclear activities are conducted in a manner that adequately protects human health and safety, and the environment.

EO 6.06 Given a list of examples, IDENTIFY the example of noncompliance with the Price-Anderson Amendments Act.

3. PAAA violations usually involve events where personnel did not follow site procedures. Examples of PAAA violations are:

   a. Failure to document problems involving nuclear safety
   b. Violations of Technical Safety Requirements (TSRs)
   c. Not complying with nuclear safety procedures
   d. Not complying with Radiological Work Permits (RWPs)
   e. Using radiological monitors that are out of calibration

4 The single most important lesson learned from a review of the site's violations is to conduct all work in accordance with established procedures and stop work or take a time out if work cannot be conducted safely or in compliance with established procedures.

5. DOE expects the contractors who operate its facilities to have the proper management and supervisory systems in place to assure that all activities at DOE facilities, regardless of who performs them, are carried out in compliance with all DOE Nuclear Safety Requirements.

   Therefore, contractors are normally held responsible for the acts of their employees and subcontractor employees in the conduct of activities at DOE facilities. Accordingly, this policy should not be construed to excuse personnel errors.

6. A civil penalty is a monetary penalty that may be imposed for violations of applicable DOE Nuclear Safety Requirements, including Compliance Orders.

7. DOE will impose different base level civil penalties, considering the severity level of the violation(s), and a categorization of DOE facilities operated by Price-Anderson indemnified contractors.

Table 1 - Severity Level Base Civil Penalties

Severity Level	Base Civil Penalty Amount
I	100%
II	50%
III	10%

8. Severity Levels

   I. The most significant violations (Severity Level I) are defined as those which involve actual or high potential for adverse impact on the safety of the public or workers at DOE facilities.

   II. Severity Level II violations represent a significant lack of attention or carelessness toward responsibilities of DOE contractors for the protection of public or worker safety which could, if uncorrected, potentially lead to an adverse impact on public or worker safety at DOE facilities.

   III. At the other end of the scale, Severity Level III violations are less serious but are more than a minor concern (i.e., if left uncorrected they could lead to a more serious concern).

9. You should:

   a. Continue to do what you have been doing. Follow established programs, policies, and procedures.

   b. Ask questions if you don't understand a policy or procedure.

   c. Notify your management immediately if something goes wrong, so that it can be reported in the appropriate manner.

EO 6.07 Given a list of statements, SELECT the

statement that defines Fitness for Duty.

G. Fitness for Duty

1. "Fitness for Duty" is defined as **an individual's ability to perform his/her assigned job free from impairment due to drugs and alcohol abuse, emotional distress, and personal health problems.**

2. For purposes of this policy, "drugs or controlled substances" include legal and illegal (street) drugs taken for non-medical reasons. It does not include prescription medication taken in accordance with a physician's instructions.

3. All SRS personnel are responsible for:

   a. Reporting to and remaining at work in a condition to perform assigned duties and tasks free from the effects of alcohol and other controlled substances.

   b. Informing their supervisor if taking any medication which could adversely affect safety or performance.

   c. Identifying and reporting workers suspected of not being fit for duty.

4. Chemical Testing

   a. The substance abuse chemical testing program applies to all SRS-badged employees.

   b. The following four conditions will result in an employee being chemically tested:

      1) **Initial testing** - All employees (potential employees) will be tested at the time of initial employment. All visitors, contractors, subcontractors, and vendors performing services at SRS must successfully complete chemical testing prior to being granted unescorted access to site facilities. Failure to pass the test will result in a termination of the employment process.

      2) **Random testing** – Employees, visitors, contractors, subcontractors and vendors are subject at any time to chemical

testing. Employees are chosen for random testing based on a computer-generated random selection program.

3) **For-Cause testing** - For-Cause chemical tests of an employee may be necessary if the employee behavior creates the basis for reasonable suspicion of the use of illegal drugs, the abuse of prescription drugs, or alcohol use to the extent that impaired performance is possible. Reasonable suspicion could result from direct observation of drug use, erratic behavior, arrest or conviction for an illegal drug offense, or reliable information received from a credible source.

Reasonable suspicion must be based on a clearly formulated belief that an employee uses illegal drugs or abuses alcohol or prescription drugs, drawn from particularized facts and reasonable inferences from those facts.

Chemical testing may be necessary for an individual involved in an occurrence that is required to be reported to DOE. An occurrence may be a behavior deviation or event which may have potential environmental protection, public health or safety, or national security protection significance.

4) **Occurrence Testing** - Individuals assigned to Human Reliability Program (HRP) positions and individuals in Department of Transportation (DOT) Driver and Hazardous Waste Operations and Emergency Response (HAZWOPER) medical surveillance programs are required to undergo chemical testing:

- When it is determined that they could have caused or contributed to an occurrence that requires immediate reporting to DOE, or
- For other occurrences, incidents, and unsafe practices (i.e., non-immediately-reportable occurrences) under the For-Cause Chemical Testing provisions.

5. Disciplinary Action

a. An employee who fails a random or for-cause chemical test is subject to disciplinary action up to and including termination of employment.

b. Refusal to take the chemical test may result in the employee's termination for insubordination.

c. Personnel are prohibited from using, possessing, selling, distributing, or manufacturing illegal drugs while onsite. Anyone who is detected using, possessing, selling, distributing, or manufacturing illegal drugs onsite is ineligible for further unescorted access to site facilities.

d. Personnel who are currently serving a felony probation or parole are prohibited from SRS. Personnel who violate the provisions of this procedure also are subject to appropriate disciplinary actions in accordance with SRNS Policies and Procedures.

H. Employee Concerns Program (ECP)

EO 6.08 Given a list of responsibilities, IDENTIFY the SRS Employee Concerns Program responsibilities.

1. Open Communication Policy

a. The Department of Energy, Savannah River Nuclear Solutions (SRNS), and Savannah River Remediation (SRR) recognize that free and open expression of employee workplace issues and concerns is essential to the safe, efficient, and effective operation of the Savannah River Site. SRNS and SRR promote and encourage open and honest communication of issues and concerns that have the potential to adversely affect the site or their employees. It is SRNS and SRR policy that employees be allowed to identify and seek resolution of workplace issues and concerns in a reprisal-free environment, with the expectation that they will be fully addressed.

Employees have the right and responsibility to seek resolution of their workplace issues and concerns. Employees also have the right to receive a timely response to their issues and concerns, and the

right to receive protection from adverse consequences as a result of reporting such matters.

b. Employees are expected and encouraged to report their concerns to their immediate supervision or management and in general, achieve resolution by interacting with management. However, in support of open communication, SRNS and SRR also provide additional avenues, programs and services through which employees can express and seek resolution of such matters. Examples of additional avenues that may be used are HR Representatives, Employee Counselors, the Ethics Office, and the Employee Concerns Program, to name a few.

c. Employees must completely understand the available communication channels for expressing their concerns. Managers must fully understand their role in addressing and resolving concerns and their responsibility for providing feedback to the employees that expressed them.

d. The "Open Communication Policy" states that employees shall have the right and responsibility to report concerns relating to safety, quality, security, environment, or health arising from operation of the SRS. They shall also have the right to receive a timely investigation and resolution of the concern, and protection from reprisal, reprimand, harassment, intimidation, retaliation, or criticism as a result of reporting the concern.

e. Open communication ensures that problems are addressed quickly and accurately. **Open communication is your right and your responsibility. Voice your concerns!!**

2. Employee Concerns Program

SRNS and SRR maintain Employee Concerns Programs to assist employees in seeking resolution of their issues and concerns if resolution through the established channels cannot be achieved, employees fear reprisal, or employees wish to remain confidential or anonymous.

DOE-SR, WSI-SRS and MOX Services also maintain an Employee Concerns Program for their employees.

In addition, employees are free to voice their concerns directly to the DOE-SR Employee Concerns Office, if other systems are unknown or unavailable, or have not dealt, or cannot deal effectively with a concern. DOE-SR ECP personnel can assist concerned employees in determining which process could be used to evaluate and resolve their concerns regardless of the issues raised. This may result in the ECP Office facilitating resolution, referring or transferring a concern, or investigating the concern itself.

MOX Project employees may also raise their concerns to the NNSA Service Center Employee Concerns Program.

The SRNS Employee Concerns Program (ECP) applies to all SRNS employees and managers, and employees and managers of onsite contractors, for reporting and seeking resolution of issues and concerns relating to environmental, safety, health, quality, security, management, waste, fraud and abuse, intimidation or reprisal, and other matters that have a potential to adversely impact the safe, efficient and effective operation of SRS. Similarly, the SRR Employee Concerns Program applies to all SRR employees and managers, and employees and managers of onsite contractors.

The Employee Concerns Program is the formal program that assures the open communication policy works by:

a. Serving as the site point of contact for official employee concern issues.

b. Promoting the availability of other programs, channels, and avenues that are available for employees to communicate and seek resolution for their issues and concerns.

c. Providing an effective process for ensuring official employee concerns are processed in accordance with DOE rules and regulations and applicable laws.

3. Reporting Concerns to ECP

EO 6.09 Given a list of methods, SELECT the appropriate methods for reporting employee concerns.

You may report a concern to the Employee Concerns Program by calling, emailing, or submitting a completed ECP form.

a. You may report a concern by calling:

- SRNS ECP Hotline (803) 725-3244
- SRR ECP Hotline (803) 208-0921
- DOE-SR ECP Hotline (803) 952-8320
  (outside of CSRA) 1-800-749-5991
- WSI ECP Hotline (803) 952-7670
- MOX Project ECP Hotline (803) 819-2986
- NNSA Service Center Hotline 1-800-688-5713

b. You may report a concern to the SRNS ECP by emailing:

- From a site computer: Employee-Concerns
- From offsite: Employee-Concerns@srs.gov

c. Complete the Employee Concern Form OSR 5-220A (available from ShRINE or from Stores) and send it to the respective Employee Concerns Program office.

Remember, reprisal actions are illegal and should be reported!

4. Differing Professional Opinion (DPO) Process

DOE established a Differing Professional Opinion process to facilitate dialogue and resolution on DPOs from employees for technical issues involving environment, safety, and health (ES&H). All SRS contractors and subcontractors have the right to use the DPO process. This process is available if resolution cannot be reached through normal peer or management review, or through the Employee Concerns Program.

Employees may request a formal DPO review using OSR 25-149, DPO Resolution Form. Submit the form to the Internal Oversight Director (IOD).

Summary

Employees have a great responsibility for performing their jobs in a safe and efficient manner. It is everyone's responsibility to follow policies and procedures, and request the assistance of management when problems arise.

Answer the self-check questions below. The answers are in the back of this study guide.

1. What does it mean to be fit for duty?

   A. Getting enough sleep and getting to work on time
   B. Having a college degree
   C. Volunteering for a hazardous job
   D. Reporting to and staying at work free from the effects of alcohol

2. You are following a site procedure to do your job. A condition arises that isn't covered in the procedure. What is your responsibility?

   A. Stop work as soon as it's safe to do so and notify your supervisor.
   B. Stop work immediately and notify Security.
   C. Make a note in the procedure and keep working.
   D. Stop work only if the Safety Engineer tells you to.

3. What is the purpose of the Quality Assurance Program?

   A. To document and investigate security violations to the fullest extent
   B. To ensure risks to safety and the environment are minimized
   C. To collect and store unused government equipment
   D. To document unsafe subcontractor performance

4. What is an example of a potential violation of the Price-Anderson Amendments Act?

   A. Disposing of aerosol cans in a regular trash dumpster
   B. Not wearing your badge in the chest area
   C. Bringing an explosive device on the site
   D. Not following requirements on a Radiological Work Permit

5. What method is available to the employee after exhausting all other avenues to have a concern resolved through SRNS?

   A. Standard Employee Concerns Program
   B. Savannah River Concerns Program
   C. Code of Concerns Program
   D. DOE-SR Employee Concerns Program

HEALTH AND SAFETY

Enabling Objectives:

EO 7.01 Given a list of responses, SELECT the appropriate response that supports either the SRS Safety Policy or Philosophy.

EO 7.02 Given a list of responses, IDENTIFY the correct response as to when or how to call a time out.

EO 7.03 Given a list of functions, IDENTIFY the five core functions of the Integrated Safety Management System (ISMS).

EO.7.04 Given a list of responses, SELECT the proper response concerning employee rights and responsibilities as they pertain to safety.

EO 7.05 Given a list of activities, SELECT the prohibited activity.

EO 7.06 Given a list of conditions and/or practices, IDENTIFY the unsafe office condition or practice.

EO 7.07 Given a list of purposes, IDENTIFY the purpose of barricades.

EO 7.08 Given a list of barricades, SELECT the type of barricades.

EO 7.09 Given a list of items, SELECT the prohibited item.

EO 7.10 Given a list of situations, IDENTIFY a situation as an unsafe practice or an unsafe condition.

EO 7.11 Given a list of reporting methods, SELECT the proper method of reporting unsafe practices and conditions.

EO 7.12 Given a list of requirements, SELECT the requirement for operating a motor vehicle onsite.

EO 7.13 Given a list of responsibilities, IDENTIFY the minimum safety responsibilities of SRS employees as pedestrians in parking lots and drivers on site roads.

EO 7.14 Given a list of actions, SELECT the appropriate action concerning Danger, Caution or Warning Tags.

EO 7.15 Given a list of definitions, IDENTIFY "confined space" and "confined space entry."

EO 7.16 Given a list of actions, SELECT the appropriate action concerning a confined space posting.

EO 7.17 Given a list of locations or contacts, SELECT the locations or contacts where employees can find the personal protective equipment requirements for their tasks.

EO 7.18 Given a list of equipment, IDENTIFY the types of personal protective equipment available for use at SRS.

EO 7.19 Given a list of responses, SELECT the response that best supports the requirements of the Hazardous Energy Control Program.

EO 7.20 Given a list of responses, SELECT the response that best describes the action you should take concerning electrical safety.

EO 7.21 Given a list of purposes, IDENTIFY the purpose of permanent and portable safety showers and eyewash stations.

EO 7.22 Given a list of practices, IDENTIFY the safe practices for using ladders.

EO 7.23 Given a list of practices, IDENTIFY the safe practices for performing a lift.

EO 7.24 Given a list of purposes, SELECT the purpose of the Hearing Conservation Program.

EO 7.25 Given a list of controls, IDENTIFY the four noise controls.

VII. Health and Safety Program

The success of the Savannah River Site depends on the safety of all employees and the protection of the public and the environment. To achieve this success, SRS uses Integrated Safety Management to ensure a safe and clean working environment for employees, visitors, vendors, subcontractors and the public. Every employee has the responsibility to correct any unsafe act or condition and/or notify their supervision. All employees are expected to accept responsibility for their personal safety, safe job performance, and the safety of others.

Each individual at SRS must strive to make safety the first priority in all activities. As always, the site safety program is based on the belief that all injuries can be prevented. The SRS Health and Safety Program outlines the employee's rules and rights, defines responsibilities, and identifies safety regulations.

A. SRS Safety Policy

EO 7.01 Given a list of responses, SELECT the appropriate response that supports either the SRS Safety Policy or Philosophy.

The cornerstone of the SRS safety program is the individual right of every employee, including subcontractors, to call a time out if they observe employee safety being compromised. This principle is the most powerful means of guaranteeing safety at SRS.

1. **The first priority of SRS is the safety and protection of employees and the general public.** Work will stop if it cannot be performed in a safe manner.

   Time Out Authority: Every worker has the responsibility and authority to call time out if he/she believes that the work being performed is not safe.

2. Materials, equipment, and facilities will not be procured, fabricated, modified, built, or utilized until compliance with all relevant procedures has been verified.

3. Immediately report any injuries, illnesses, incidents, near-misses, or unsafe conditions to your escort, supervisor, or the person responsible for your visit or work scope.

   SRNS will send their employees to the Medical Department.

   (NOTE: Subcontractors are responsible for providing medical treatment and first aid to their employees, unless it's an emergency.)

4. Report unsafe acts, unsafe conditions, and near misses to supervision.

5. Do not become involved in a work activity that could compromise your safety or the safety of others as a result of not being properly trained, qualified, or for which you are not authorized to assist.

6. Do not attempt to operate special tools or equipment unless you are trained, qualified, and authorized to operate the specific tool or equipment.

7. In all cases, if something out of the ordinary happens or a particular work activity does not go as expected, call "time out," **STOP** and reassess the situation.

8. Do not proceed with any task until you are certain the job can be completed with everyone's safety, including your own, maintained.

9. Ask for help or clarification if unsure about your safety or the safety of others, regardless of the situation.

10. Obey all warning signs, barricades and other safety notices. Obtain permission before entry.

11. Be sure the equipment, material and tools you bring or use on the site are in safe operable condition. Do not bring defective equipment on site. Ask yourself if your equipment, materials, and tools are in good working order and in a serviceable condition to be used safely for all work you will be doing.

12. You may encounter heavy equipment in some areas of the site. Use caution and do not enter areas where heavy equipment is being operated unless you are authorized. No self-propelled equipment (backhoes, trackhoes, bulldozers, etc.) may be loaded or off-loaded from trucks, trailers or similar equipment without employees having first completed a Self-Propelled Equipment Loading Checklist. Notify your onsite contact for the checklist.

13. Do not perform maintenance on, service, or operate any heavy equipment unless you are qualified and authorized to do so.

B. The SRS Safety Philosophy

The SRS Safety Philosophy states:

1. All injuries can be prevented.

2. Working safely and obeying safety rules are conditions of employment.

3. Follow General Site Safety Rules:

   a. Walk; don't run.
   b. Maintain good housekeeping.
   c. Use the handrail when ascending or descending stairs.
   d. Observe and properly respond to all safety warnings, including lights, alarms, horns, sirens, signs and barricades.

C. Time Out Policy

EO 7.02 Given a list of responses, IDENTIFY the correct response as to when or how to call a time out.

A **time out** is an informal way to stop work before it is done unsafely. Anyone can call a time out.

When to Call a Time Out

Time out can be called for any of these reasons (not an all-inclusive list):

- Unexpected condition
- Change in scope
- New hazard
- Unclear/inadequate instructions
- Issue not covered in pre-job briefing

- Additional assistance needed (RCP, IH, QA, etc.)

- Mistakes
- Incorrect Personal Protective Equipment (PPE), special tools needed
- Unsure if you can continue safely, for any reason: fatigue, heat, illness, etc.
- Bad feeling about the job
- Other items identified as specific to the facility or function

How to Call a Time Out

- Inform your supervisor or the person in charge (PIC) that a condition requiring a time out has been encountered.

- Make sure all team members are aware that a time out has been called.

- Leave the job site in a safe condition, prior to stopping work, if possible.

- Hold a meeting between supervision and members of the team to discuss the job and what can be done to mitigate any unsafe condition(s).

- Resume work ONLY after supervision has approved the new work plan.

D. Integrated Safety Management System (ISMS)

EO 7.03 Given a list of functions, IDENTIFY the five core functions of the Integrated Safety Management System (ISMS).

The Integrated Safety Management System is a common sense approach to doing work safely.

The five core ISMS functions are:

1. Define the scope of work
2. Analyze the hazards
3. Develop and implement hazard controls
4. Perform work within controls
5. Provide feedback and continuous improvement

Examples of the ISMS process include:

- Issue a work request and discuss the materials needed
- Perform a job walk-down and discuss the hazards associated with the proposed job
- Protect against the identified hazards
- Use preventative maintenance
- Ask the question, "Can we do the job safer?"

E. Behavior-Based Safety (BBS)

Studies have shown that 95+ percent of injuries occur because of unsafe behavior. Behavior-Based Safety is a process that encourages all employees to focus on increasing safe behaviors and minimizing at-risk behaviors in the workplace.

BBS Observers request individuals' permission to observe them performing their jobs, to identify at-risk behaviors, such as not using Personal Protective Equipment (PPE). The Observers do not include the individual's name or other identifying data.

The observations are recorded in a data base which helps the different organizations and the site identify "best practices" to emphasize, and improvement areas.

Employees are encouraged to become BBS Observers and to request to be observed.

Remember this motto:

***Will** your next choice*
be the safe choice?

F. Voluntary Protection Program (VPP)

Voluntary Protection Program (VPP) is a joint Department of Energy and Occupational Safety and Health Administration (OSHA) program designed to promote excellence in safety and health management systems by recognizing facilities that have implemented outstanding health and safety programs. It provides an opportunity to develop a cooperative relationship between management, labor and government.

VPP STAR is an award that provides a continuous process reaching toward safety excellence. It is a highly selective award. As a STAR site, SRS is on the leading edge of hazard prevention methods and technology and shows continuous improvement in safety and health programs.

Savannah River Site's commitment to VPP means that each of us is involved in the decisions that affect our safety and health.

Remember to **MAKE**, **TAKE**, and **WATCH**:

MAKE a personal commitment to live and work safely

TAKE an active role in your safety activities

WATCH out for yourself and your coworkers

G. Human Performance Improvement (HPI)

1. The Institute of Nuclear Power Operators (INPO) developed Human Performance Improvement (HPI) beginning in the mid-1980s as a way to reduce the number of reactor events caused by human error. In 2007, SRS embraced the achievement of excellence in Human Performance Improvement as a key strategy for reducing the number of events caused by human error and achieving significant improvement in safety, security and overall work performance.

   HPI is a set of tools intended to promote behaviors throughout an organization that support safe and reliable operation and is based on these beliefs:

   - People are fallible, and even the best make mistakes
   - Error-likely situations are predictable, manageable, and preventable
   - Individual behavior is influenced by organizational processes and values
   - People achieve high levels of performance based largely on the encouragement and reinforcement received from leaders, peers, and subordinates
   - Events can be avoided by understanding the reasons mistake occur and applying the lessons learned from past events

2. Error Reduction Tools

a. **Self-Checking. Stop, Think, Act, Review (S.T.A.R.)** -- Take a moment to think about the activity and its expected outcome. If visual or physical contact is broken, then self-checking should occur again.

b. **Peer-Checking** -- have a second knowledgeable individual verify that the action planned by the performer is appropriate **before** execution and occurs according to plan.

c. **Three-Way Communication** – The sender speaks the message to the intended receiver, the receiver repeats the message in a paraphrased form, and the sender acknowledges the receiver understands the message.

d. **Procedure Use and Adherence** – "Use" means continuous use (in-hand), reference use, and information use. "Adherence" means following the intent and direction provided in the procedure regardless of the level of use.

e. **Time Out** – If unsure of how to proceed, or if conditions don't appear correct, call a time out.

f. **Questioning Attitude** – fosters awareness of uncertainty and hazards. A healthy questioning attitude must overcome the temptation to ignore "gut feelings" of something not being right.

g. **Phonetic Alphabet** – When the only distinguishing difference between two component designators is a single letter, then the phonetic form of the letter should be substituted for the distinguishing character. For example: "766-H" would be pronounced as "766 Hotel."

Phonetic Alphabet	**A**	**Alpha**
	B	**Bravo**
	C	**Charlie**

D	**Delta**
E	**Echo**
F	**Foxtrot**
G	**Golf**
H	**Hotel**
I	**India**
J	**Juliet**
K	**Kilo**
L	**Lima**
M	**Mike**
N	**November**
O	**Oscar**
P	**Papa**
Q	**Quebec**
R	**Romeo**
S	**Sierra**
T	**Tango**
U	**Uniform**
V	**Victor**
W	**Whiskey**
X	**X-ray**
Y	**Yankee**
Z	**Zulu**

h. **Prejob Briefing** – The two primary purposes of the prejob briefing are to prepare workers for what is to be **accomplished**, and to sensitize them to what is to be **avoided.** Prejob briefings should be a **dialogue** among the participants, rather than a

monologue by the first-line supervisor or a lead technician. All members of the work crew should participate in the briefing process.

i. **Placekeeping** – Reliably marking steps in a procedure that have been completed or that are not applicable (skipped). It is particularly important for plant status and equipment reassembly, or any situation when the consequences of skipping, repeating, or partially completing a step would result in adverse consequences.

H. Employee Rights and Responsibilities

EO 7.04 **Given a list of responses, SELECT the proper response concerning employee rights and responsibilities as they pertain to safety.**

All employees have rights and responsibilities with regard to DOE and Occupational Safety and Health Administration (OSHA) requirements. DOE contractor employees have the right and responsibility, without reprisal, to:

1. Participate in activities described below on official time.

2. Have access to:

   - DOE safety and health publications
   - The employee safety and health program
   - The standards, controls, and procedures applicable to the site
   - The DOE safety and health poster that informs the worker of relevant rights and responsibilities
   - Limited information on any recordkeeping log (OSHA Form 300). Access is subject to Freedom of Information Act requirements and restrictions, and
   - The DOE Form 5484.3 (the DOE equivalent to OSHA Form 301) that contains the employee's name as the injured or ill worker.

3. Be notified when monitoring results indicate the worker was overexposed to hazardous materials.

4. Observe monitoring or measuring of hazardous agents and have the results of their own exposure monitoring.

5. A representative authorized by the employee may accompany DOE during the physical inspection of the workplace for the purpose of aiding the inspection. When no authorized employee representative is available, DOE will consult, as appropriate, with employees on matters of worker safety and health.

6. Request and receive results of inspections and accident investigations.

7. Express concerns related to worker safety and health.

8. Decline to perform an assigned task because of a reasonable belief that, under the circumstances, the task poses an imminent risk of death or serious physical harm to the worker, coupled with a reasonable belief that there is insufficient time to seek effective redress through the normal hazard reporting and abatement procedures.

9. Stop work when the worker discovers employee exposures to imminently dangerous conditions or other serious hazards, provided that any stop work authority must be exercised in a justifiable and responsible manner in accordance with Manual 8Q, Procedure 1.

10. Receive, within 15 days of the receipt of a written request, access to or copies of, any monitoring or bioassay records relevant to the employee's potential exposure to toxic materials or harmful physical agents during employment.

11. File a complaint regarding unsafe conditions or discrimination because of safety-related issues to DOE-SR using form SR-230, (Rev. 10/21/97).

12. Have access to their personal safety, health, and medical records consistent with the Freedom of Information Act and the Privacy Act.

13. Be notified of any information indicating that a radiation dose may have exceeded the limits specified by the DOE prescribed OSHA standards.

14. Promptly report any condition that may lead to a violation of OSHA standards.

15. Notify supervision of any unsafe conditions.

You Have a Right to a Safe and Healthful Workplace

IT'S THE LAW!

- ☑ You have the right to notify your employer or the local Department of Energy (DOE) office about workplace hazards, without reprisal. You may ask that your name not be used.
- ☑ You have the right to participate in the activities referenced in 10 CFR 851 "Worker Safety and Health Program" on official time.
- ☑ You have the right to access copies of DOE worker protection publications; the worker safety and health program for your workplace; and the standards, controls, and procedures that apply to your workplace.
- ☑ You have the right to have access to some accident and illness recordkeeping logs and the information in records of any workplace illness or injury that you experienced.
- ☑ You have the right to observe monitoring or measuring of hazardous agents, to receive the results of your own monitoring, and be notified when monitoring results indicate an overexposure.
- ☑ You have the right to have a representative accompany the DOE's Director for enforcement or the Director's authorized personnel during the inspection of your workplace.
- ☑ You have the right to request and receive results of inspections and accident investigations.
- ☑ You have the right to decline to perform an assigned task because of your reasonable belief that, under the circumstances, the task poses an imminent risk of death or serious physical harm to you, coupled with your reasonable belief that there is insufficient time to seek effective redress through the normal hazard reporting and abatement procedures.
- ☑ Your employer must post this notice in your workplace.

Title 10 CFR 851 requires DOE contractors to provide their workers with a safe and healthful workplace. To obtain more information about those requirements and your rights; seek advice or assistance; or report an emergency, contact your supervisor, your local DOE office, or the DOE Office of Health, Safety and Security (http://www.hss.energy.gov). Additional inquiries or concerns may be address to the Employee Concerns Manager at the local DOE office at

P.O. Box A, Aiken, SC 29802 or 803-952-8320 (city, state, zip code).

I. General Site Safety Requirements

EO 7.05 Given a list of activities, SELECT the prohibited activity.

The General Site Safety Requirements describe **six activities prohibited** at SRS facilities.

1. No horseplay or scuffling.

2. No running, except on designated jogging trails, on your own time.

3. Smoking is never permitted in any area where radioactive, toxic, or flammable materials are handled or stored.

4. Smoking is never permitted in any SRS building or in any government vehicle.

5. Storage or consumption of food and beverages is not permitted in restrooms or in areas where hazardous materials are used or stored.

6. Do not take shortcuts through production or construction areas.

Employees in violation of the General Site Safety Requirements are subject to disciplinary action.

J. Office Safety Requirements

EO 7.06 Given a list of conditions and/or practices, IDENTIFY the unsafe office condition or practice.

1. Approach open and closed doors cautiously.

2. Keep passageways and stairways free of tripping hazards.

3. Keep the work area neat.

4. Use caution when handling paper and metal fasteners.

5. Do not tilt back in straight chairs or lean too far back in swivel chairs.

K. Barricades

EO 7.07 Given a list of purposes, IDENTIFY the purpose of barricades.

1. Barricades are physical obstructions (e.g., rope, metal pipes or rails, metal chains, plastic chains, traffic cones, etc.) intended to

   a. Warn personnel of a hazard.

   b. Limit personnel or vehicle access to a specific area.

2. Do not enter a barricaded area. Entry is limited to personnel specifically assigned to the area or to personnel who have permission to pass through from the work group that erected the barricade.

EO 7.08 Given a list of barricades, SELECT the type of barricade.

Three Types of Barricades

1. **Warning Barricade**

   a. Calls attention to a hazard, but offers no physical protection.

   b. Indicates a location having a hidden hazard (slippery floor, overhead leak, overhead work, etc.).

   c. Posting lists entry requirements.

   d. Erected around areas where construction or maintenance work is in progress and control of pedestrian traffic is necessary.

   e. Designated by a red and white safety rope.

2. **Protective Barricade**

a. Calls attention to a hazard and provides physical protection from the hazard.

b. Posting lists entry requirements.

c. Areas where personnel could fall into a pit or hole in the ground, through a hole in the floor or wall, or off a roof or structure.

d. Are constructed from wood, pipe railing, wire rope, steel chains.

3. **Radiation Barricade**

a. Warns personnel of radiation or radioactive contamination hazards.

b. Designated by magenta and yellow colors.

L. Unsafe Items Prohibited in SRS Facilities

EO 7.09 Given a list of items, SELECT the prohibited item.

Items prohibited in SRS facilities include:

1. "Strike anywhere" matches (kitchen matches).

2. Intoxicants and narcotics.

3. Firearms, unless authorized.

4. Materials and equipment that may emit hazardous or objectionable gases in the vicinity of building air-intake ducts.

5. Pocketknives without locking blades and knives with blades longer than three inches are prohibited from on-the-job use.

M. Unsafe Practices (At-risk Behaviors)

EO 7.10 Given a list of situations, IDENTIFY a situation as an unsafe practice or an unsafe condition.

1. Unsafe practices (at-risk behaviors) are actions which people do or fail to do which may contribute to an accident or injury. Over 95% of occupational injuries are the result of at-risk behaviors.

2. The causes of unsafe practices are failure to follow:

   a. Safety rules.

   b. Specific instructions.

   c. Safety practices of the job.

N. Unsafe Conditions

1. Unsafe conditions are physical or mechanical hazards that could contribute to personal injury or illness to employees while performing their duties.

2. The causes of unsafe conditions are:

   a. Oversight.

   b. Carelessness.

   c. Failure to properly light passageways, exits and corridors, and keep them clear of obstructions.

O. Ways to Report Unsafe Practices or Conditions

EO 7.11 Given a list of reporting methods, SELECT the proper method of reporting unsafe practices and conditions.

There are several ways to report unsafe practices and conditions.

1. First, correct the situation, if you can. Get help on the way if necessary.

2. Report the practice or condition verbally to your supervisor.

3. Report it in writing to your supervisor using Form OSR 20-24, the "Green Card."

4. Discuss the unsafe practice or condition during safety meetings.

5. Use the Employee Concerns Hotline

REMEMBER -- If you identify an unsafe condition:

- Notify your supervisor or STR.
- Apply a "Danger – Unsafe Condition" tag in coordination with facility management.

P. General Safety Rules for Site Motor Vehicles

EO 7.12 Given a list of requirements, SELECT the requirement for operating a motor vehicle onsite.

The General Safety Rules for Site Motor Vehicles, procedure 11, 8Q Manual, describes the following mandates which are applicable to all personnel at SRS.

1. Obey all posted speed limits and traffic signs on all SRS roadways and parking lots. Remember, South Carolina laws apply. Adjust your driving for the weather: fog, rain, reduced visibility, etc.

2. If you become lost, STOP where it is safe to stop and ask for directions or call 3-3911 from a site phone or 803-725-3911 from a **mobile** phone.

3. All personnel operating, driving or riding in a vehicle must properly secure their seat belts and shoulder straps, if provided, before putting the vehicle in motion.

4. Motorcyclists must wear a helmet onsite.

5. Watch for deer in the early morning and dusk. Remember that deer travel in packs, so if you see one deer, there are probably more.

6. Before entering a government vehicle, operators are to glance around for traffic flow of vehicles and pedestrians that may interfere with driving and backing safely. Before backing a government vehicle, look to the rear and honk the horn twice.

7. Before leaving the government vehicle, turn off the ignition and set the parking brake. Government vehicles must be locked when unattended.

8. The operator of a government vehicle must have a valid driver's license on his/her person. Also, the driver must have current proof of registration and current proof of insurance.

Q. Site Roads and Parking Lots Safety Requirements

EO 7.13 Given a list of responsibilities, IDENTIFY the minimum safety responsibilities of SRS employees as pedestrians in parking lots and drivers on site roads.

Site roads and parking lots safety requirements include the following:

1. Pedestrians should use only sidewalks or designated crosswalks.

2. Drivers must yield to pedestrians in crosswalks.

3. Travel only on established roadways; that is, paved roads. **DO NOT** drive down dirt, gravel, or other side roads unless you have a business reason to do so.

4. When in a parking lot, drive in lanes provided, not across parking spaces.

5. Park in designated parking spaces.

6. The speed limit in site parking lots is 10 miles per hour, EVEN if it's not posted.

7. Walk on the left side of the shoulder of the road facing the traffic when there is no sidewalk.

R. Danger, Caution, and Warning Tags

EO 7.14 Given a list of actions, SELECT the appropriate action concerning Danger, Caution or Warning Tags.

1. **Danger--Do Not Operate (DNO)--Hazardous Energy Control Tag**

   a. Used only for hazardous energy control to prohibit operation or use of equipment which could endanger personnel during a lockout/tagout.

   b. The tag is identified as a white card with red stripes and black lettering. Do not attempt to manipulate a component which has a DNO-tag applied to it.

   c. Additional training is required to be authorized to hang Danger--DNO--Hazardous Energy Control tags and/or long shank Master® locks.

2. **Danger--Unsafe Condition Tag**

   a. Used to prevent use, entry, or other specified conditions for protection of personnel against a hazard.

   b. **Not** to be used for hazardous energy control.

   c. Tag is identified as a white card with black lettering and a red danger label.

   d. Anyone can apply a Danger--Unsafe Condition Tag.

3. **Caution Tag**

a. Used when a system or component is functional but the worker needs further information prior to use.

b. **Not** used for protection of personnel or equipment.

c. Tag is identified by yellow coloring with black print.

d. Anyone can apply a Caution Tag.

4. **Warning Tag**

Used to warn those employees that they are approaching a "Tag Only" lockout point.

a. Hazards

b. Protective equipment requirements

c. Tags identified as white with black lettering and a red warning label

5. **Warning Grounding Tag**

a. Used for Hazardous Energy Control (Lockout/Tagout) procedure for identifying grounding cables or shorting devices.

b. The tag can be applied only by a qualified Electrical & Instrumentation (E&I) mechanic or a construction equivalent employee.

c. Tag is identified as a red card with black lettering.

S. Confined Space and Entry

EO 7.15 Given a list of definitions, IDENTIFY "confined space" and "confined space entry."

1. A confined space is a space that is large enough that an employee can bodily enter and perform work. It is **not** designed for continued employee occupancy and has a limited means of entry or exit.

2. The space must be large enough for BODILY ENTRY to be classified as a confined space. It is then considered an entry into the confined space as soon as any part of the body breaks the plane of entry. A space that is not large enough to physically enter with the entire body is not a confined space.

3. Examples of confined spaces include tanks, vessels, storage bins, hoppers, vaults, etc.

NOTE: Manholes, modular-office crawl space areas, and false ceiling areas, containing potentially hazardous piping/duct work or located in or above hazardous/process locations are confined

spaces if they are large enough to bodily enter and/or if the entrant will be placing his head into a potentially hazardous atmosphere.

T. Confined Space Posting

EO 7.16 Given a list of actions, SELECT the appropriate action concerning a confined space posting.

1. All confined spaces will be posted with a sign stating "Danger -- Confined Space -- Enter By Permit Only."

2. Only those personnel receiving additional training are allowed to enter and perform work in a confined space.

3. At **NO TIME** shall an employee or attendant attempt to rescue an entrant from a confined space. Help should be summoned and the entrant removed by the Fire Department Rescue Team only.

U. Requirements for Personal Protective Equipment

EO 7.17 Given a list of locations or contacts, SELECT the locations or contacts where employees can find the personal protective equipment requirements for their tasks.

Employees have several resources where they may find the personal protective equipment requirements before starting a job.

1. Area safety rules
2. Work procedures
3. Safe Work Permit (SWP) from the Assisted Hazard Analysis (AHA)
4. Employee Safety Manual (8Q)
5. Industrial Hygiene Manual (4Q)
6. Radiological Control Manual (5Q)
7. Supervisor
8. Material Safety Data Sheets

Remember . . . all protective equipment is to be inspected by the user before each use.

V. Personal Protective Equipment (PPE)

EO 7.18 Given a list of equipment, IDENTIFY the types of personal protective equipment available for use at SRS.

1. General Requirements

Defining the scope of work and identifying hazards are essential to ensuring work is performed safely. This is the preferred hierarchy of controls:

- Eliminate the hazard
- Engineering controls to mitigate the hazard
- Administrative controls to mitigate the hazard
- PPE

2. Eye and Face Protection

a. Must be worn when potential hazards from flying objects or chemical splash are present.

b. Clear face shields are used for splash and impact protection. They are secondary protection and must be worn in conjunction with safety glasses or goggles.

c. Guidance is provided in Manual 8Q (Employee Safety Manual), Procedure 61, Attachment 2.

d. All eye and face protection must meet requirements outlined in ANSI Z87.1 and must be marked accordingly.

e. All safety glasses must have side shields.

f. Sunglasses or "photo-gray" lenses may not be worn while working indoors due to the darkening effect not allowing adequate light to perform work safely.

g. Must fit snugly, be properly adjusted, be kept in clean and sanitary condition, be maintained in good repair; defective or damaged equipment must be removed from service and replaced

h. Prescription safety glasses with side shields may be purchased through site Medical.

3. Head Protection – Hard Hats

a. Worn where specified by signs and as specified on work authorization documents, such as Safe Work Permits (SWPs) and Radiological Work Permits (RWPs). Hard hats are required in all construction work areas onsite, and where overhead hazards exist.

b. Worn squarely on the head, not tilted.

c. Do not leave hard hats in hot areas or in direct sunlight such as on vehicle dashboards or rear windows. This breaks down the plastic and reduces the degree of safety originally provided.

d. Do **NOT** modify hard hats.

e. Inspect hard hats before wearing them.

f. Hard hats found with dents, cracks, deep scratches or gouges, frayed suspensions, damaged suspension lugs, fine cracking or crazing on the surface, dull or chalky appearance or other damage must be removed from service and replaced.

g. Hard hats may be cleaned by dipping in a mild solution of soapy water and rubbing with a soft brush or cloth.

4. Hand and Finger Protection - Gloves

a. Protective gloves must be worn whenever potential hazards to the hands and finger are present. Required on jobs involving material handling or operating equipment unless their use would be unsafe or there is no hazard to the hands.

b. Always wear gloves that provide the best protection from the hazard.

c. Gloves are available through SRS Stores that will provide protection from abrasions, cuts, puncture, electrical shock, heat/cold, contamination, as well as chemical exposures.

5. Foot Protection - Safety Shoes

a. With the exception of office and administration areas, sturdy work shoes or safety shoes are required depending on the area accessed or the work you are performing.

b. Use of safety shoes shall be required in areas where there is a possible danger of injury from impact of falling objects.

c. Personnel involved in backfilling/compacting operations using a jack hammer or other similar activities using pneumatic equipment, shall use toe and arch covers in addition to safety shoes.

6. Hearing Protection - Earplugs, Ear Muffs

a. Used to minimize the risk of hearing loss due to noise exposures.

b. Ear plugs and ear muffs are required in work areas with noise levels of 85 dB and above.

c. Transit through a high noise area without hearing protection is allowed, provided no work is performed.

d. Ear plugs must be properly inserted into the ear canal to ensure adequate noise suppression.

e. New E-A-Rsoft SuperFit ear plugs are available through SRS Stores that have an indicating ring to show when the plug is providing the best fit and noise protection. These plugs provide a noise reduction rating of 33 decibels.

Other specialized PPE may be required where specific hazards or environmental conditions warrant additional protection.

If you do not have the necessary PPE, STOP and do not proceed until the equipment is secured and you have been briefed on its proper use.

Do not use defective or improperly fitting PPE for any task. Notify your onsite contact immediately. You are responsible for securing appropriate and serviceable equipment.

Always confirm up front with your supervisor or your onsite contact what PPE is required for your work, activity, or in the area you will be visiting. If you later have questions, STOP work – safely – and reconfirm what is required.

Proper Work Attire/Clothing

If your task involves manual work in the field, your work clothes should consist of full-length pants or trousers and a shirt or blouse with sleeves that extend at least three inches below the shoulder and that does not expose any portion of the torso from the neck to the waist.

Material Trucks

If the bed of your vehicle requires access by power equipment at loading docks, chock the wheels of your vehicle when you park.

Never walk or work under suspended loads during unloading activities.

Stay a safe distance from moving equipment and material to avoid potential pinch or crush hazards. Never throw tie-down straps, buckles, chains or other material to the other side of your vehicle during loading or unloading operations unless someone stands clear and confirms it is safe to do so.

W. Hazardous Energy Control Program

EO 7.19 Given a list of responses, SELECT the response that best supports the requirements of the Hazardous Energy Control Program.

The purpose of the Hazardous Energy Control Program is to provide the primary means of controlling the position of energy isolating devices such as valves and circuit breakers in order to protect personnel, equipment, and the environment from inadvertent release of energy or hazardous material.

Hazardous Energy Control Lockout/Tagout Requirements

1. To participate in a Hazardous Energy Control Lockout/Tagout, you must have SRS Initial Hazardous Energy Control training (TREGHEC0).

2. Only authorized and trained personnel can attach, remove, or modify Danger--Do Not Operate (DNO)--Hazardous Energy Control tags.

3. A single design Lockout/Tagout (L/T) device, a Danger--Do Not Operate (DNO)--Hazardous Energy Control tag and a lock are used to apply a L/T. A laminated long-shank Master® safety padlock is the only lock allowed for L/T. These long-shank locks shall not be used for any other purpose at SRS.

X. Basic Electrical Safety Rules

EO 7.20 Given a list of responses, SELECT the response that best describes the action you should take concerning electrical safety.

These basic electrical safety rules comply with the OSHA Standards:

1. Do not work on or near any electrical conductors or equipment while they are energized unless authorized and trained.

2. Do not remove or open receptacle covers, switch plates, or covers which enclose energized conductors unless authorized and trained.

3. Treat all electrical wires or equipment as if they are energized until proven otherwise.

4. Personnel should keep themselves and any material they may be handling at least ten feet away from overhead power lines.

5. Observe and heed all warning signs regarding dangerous voltages.

6. Use the Lockout/Tagout procedure, as applicable, when working on electrical equipment.

7. Avoid contact with grounded metal objects or water sources when handling energized insulated conductors.

8. Do not work on, near, or with electrical equipment without adequate lighting.

9. Do not wear conductive accessories when working near energized parts.

10. Visually inspect the electrical equipment before each use.

Y. Safety Shower and Eyewash Facilities

EO 7.21 Given a list of purposes, IDENTIFY the purpose of permanent and portable safety showers and eyewash stations.

1. There are permanent and portable safety showers and eyewash stations available for employees who work in areas where their eyes and body may be exposed to harmful corrosive, toxic, or flammable materials.

2. These facilities provide domestic water for rinsing toxic materials or chemicals from the body, clothing, or eyes.

3. Operator use:

   a. Know the location of the safety shower and eyewash facilities in your work area.

   b. Understand the operation of the safety shower and eyewash facilities.

   c. After contact with hazardous materials, move immediately to the shower and begin flushing the affected area of the body.

   d. Remove all affected clothing as quickly as possible while showering.

   e. Flush for a minimum of 15 minutes.

   f. If the eyes are affected, hold the eyelids open while flushing at the eyewash facility or safety shower.

   g. Summon medical assistance.

4. The area around safety showers and eyewash facilities must be well-lighted and highly visible.

5. Safety shower lights must be green and lighted at all times.

Z. Safe Use of Ladders

EO 7.22 Given a list of practices, IDENTIFY safe practices for using ladders.

1. A ladder can be a helpful tool. Used incorrectly, it can be a hazard. Several ladder accidents and one fatality occurred at DOE sites over the past few years. Most causes were inattention to detail and/or poor planning

2. Ladders must be used in accordance with the manufacturer's recommendation (e.g., a stepladder cannot be used as a straight ladder).

3 Tag defective ladders immediately with a "DANGER – UNSAFE CONDITION" tag and arrange for repair or replacement as soon as possible.

4. Ladders not being used must be stored to avoid damage.

5. Ladders shall be used only on stable and level surfaces, unless secured to prevent accidental displacement.

6. Use properly inspected, color-coded, and approved ladders. Users must carefully inspect ladders, including tie-off and hoisting ropes, prior to **each** use to ensure safe conditions.

7. Stepladders and platform ladders more that eight feet tall, straight ladders and extension ladders must be tied off or held in place by another employee while in use. Ladders must be held in place by another employee while being tied or untied.

8. Use only nonconductive ladders when performing electrical work, welding or where there is danger of contact with electrical conductors. Fiberglass is the preferred ladder material on site.

9. Only one person at a time is permitted on a ladder.

10. Face the ladder when ascending or descending.

11. Do not carry tools or equipment in your hands when ascending or descending a ladder. Use a hand line and a bucket.

12. The top platform and top step of all stepladders and the top two rungs of all straight and extension ladders must not be used to stand or climb upon.

    These rungs must be painted red or marked with "STOP-DANGER-DO NOT STAND" OSHA warnings as provided by the manufacturer. Step stools three feet high or lower are excluded from this rule.

13. When ladders more than 10 feet long are manually transported, two employees must carry the ladder, walking near the ends and on opposite sides.

14. Some key questions to answer before you use a ladder:

    - Can I keep my body within the plane of the ladder, or am I going to have to reach outside?
    - Am I setting the extension ladder up at the proper angle? If it's a step ladder, can I fully extend the ladder? Can I lock the braces?
    - Am I going to have to work on the ladder over 30 minutes?
    - Am I going to have to wear a plastic suit or some other protective equipment?
    - Am I going to have to use power tools?

15. Make sure you have the proper training; identify and discuss all hazards with your supervisor before using a ladder.

16. If a step ladder or a straight ladder cannot be used safely, consider other alternatives, such as a Ballymore-type ladder, a scissors lift, or a scaffold.

17. If you're not sure you have the right training, the right type of ladder, or an unexpected condition occurs, call a time out!

AA. Safe Lifting

EO 7.23 Given a list of practices, IDENTIFY the safe practices for performing a lift.

1. Correct lifting techniques include:

    a. Stand **close to the load**, with feet spread apart for a stable base.

    b. **Squat**, with your head and back in line. Do not bend at the waist. Keep the principle of leverage in mind. Tighten stomach muscles. Abdominal muscles support your spine when you lift.

    c. Grip the load with your **whole hand**.

    d. Lift with your **legs.** Let your leg muscles do most of the work.

    e. Hold the load centered and **close to the body.** The closer the load is to your body, the less force it exerts on your back. Do not add

the weight of your body to the load. Avoid twisting. It can cause injury.

2. Maximum loads to lift:

   a. Varies from task to task. Check work procedures if your job requires lifting. When in doubt, get help before lifting.

   b. Use mechanical means whenever possible to help perform a lift.

   c. Back support belts are available from Stores, Caption 21, Items 50.00, 51.00, 52.00, and 53.00, but are **not** designed to increase the weight you can lift.

      - Back support belts are designed to help reduce the possibility of lifting-related injuries. Not only must the belt be worn and used according to the manufacturer's instructions, but correct lifting techniques must also be practiced.

      - Before using a back support belt, an employee must read, understand and sign the "Back Support Belt Instruction" form, which is Attachment 7 in the Employee Safety Manual, 8Q.

BB. Hearing Conservation Program

EO 7.24 Given a list of purposes, SELECT the purpose of the Hearing Conservation Program.

1. The purpose of the SRS Hearing Conservation Program is to protect employees against workplace noise-induced hearing loss.

2. The amount of hearing loss, or "wearing out," depends on the period of time an individual is exposed to high levels of noise.

3. The effects of noise on hearing are:

a. Short-term exposure to high noise levels will produce a temporary hearing loss called "auditory fatigue." Hearing will return after a short time away from the noise.

b. Long-term exposure (over a period of years) to high noise levels can produce a permanent hearing loss.

EO 7.25 Given a list of controls, IDENTIFY the four noise controls.

1. Annual Training

Employees exposed to occupational noise are required to wear hearing protection and are provided annual training.

2. Personal Protective Equipment (PPE)

Hearing protection, such as ear plugs and ear muffs, is required for work areas characterized by noise levels of 85 dB, and above, regardless of time spent in the high noise area. Transit through a high noise area without hearing protection is allowed, provided no work is being performed.

3. Engineering Controls

Noise control strategies will address noise reduction at the source, modifying the noise pathway, and minimizing the noise reaching the employee at his work area. Industrial Hygiene relies principally on engineering controls and administrative work practices over personal protective equipment to reduce noise levels. Noise control on existing equipment will include substitution with quieter machines, use of vibration-isolation mountings, and the reduction of the external surface of equipment and its vibrating parts.

4. Signs and Markings

Signs and markings are used to indicate where hearing protection must be worn. The signs are yellow background and black letters that read "Hearing Protection Required."

Answer the self-check questions below. The answers are in the back of this study guide.

1. Which is a true statement about employees and safety?

   A. Employees are required to notify security of any safety-related issue.
   B. Employees have the right to carry a concealed weapon onsite.
   C. Employees must participate in the Annual Safety Conference.
   D. Employees have the right to express concerns about worker safety and health.

2. Select the activity prohibited at SRS.

   A. Taking shortcuts through construction areas.
   B. Running on designated jogging trails.
   C. Carrying a pocketknife with a locking blade.
   D. Reporting spills and leaks to supervision.

3. Select the purpose of a barricade.

   A. To allow employees to enter at their own risk.
   B. To allow only employees with an L or Q clearance to enter.
   C. To warn employees of a hazard and/or limit entry.
   D. To warn employees of random vehicle inspection.

4. Which situation below requires a time out?

   A. It's time for lunch.
   B. You're not ready for your performance review.
   C. The work scope has changed.
   D. The elevator in your building is out of service.

5. Identify the unsafe item prohibited at SRS.

   A. Prescription drugs
   B. Two-ounce canister of mace
   C. Pocketknife with locking blade

D. Strike-anywhere matches

6. Identify the unsafe condition.

A. Standing on a table.
B. Coffee spilled on the floor.
C. Running in the hall.
D. Candy stored in a desk drawer.

7. Select the tag you must be trained and authorized to hang.

A. Danger-Do Not Operate (DNO) - Hazardous Energy Control Tag
B. Caution Tag
C. Danger-Unsafe Condition Tag
D. Warning Tag

8. What should you do if you hear someone in a confined space calling for help?

A. Get another employee to help you rescue the employee.
B. Call 3-3911 and the Rescue Team will rescue the employee.
C. Contact the area Safety Engineer.
D. Contact your supervisor for a Confined Space Entry Permit.

9. Select the electrical safe practice you should take when working on or around electrical equipment.

A. Have your supervisor watch what you're doing.
B. Visually inspect all equipment before each use.
C. Remove receptacle covers after regular work hours.
D. Place a "Caution" tag on the equipment.

10. Which function is a core function of the Integrated Safety Management System?

A. Complete the work under all circumstances.
B. Have the Safety Engineer approve your finished task.
C. Develop hazard controls.
D. Wear a hard hat at all times when outdoors.

SRS HAZARD COMMUNICATION PROGRAM
Including BERYLLIUM AWARNESS and Nanoparticle Awareness

Enabling Objectives:

EO 8.01 Given a list of purposes, IDENTIFY the five elements of OSHA's Hazard Communication Standard.

EO 8.02 Given a list of elements, IDENTIFY the purpose of OSHA's Hazard Communication Standard.

EO 8.03 Given a list of locations, IDENTIFY locations of the SRS Hazard Communication Program.

EO 8.04 Given a list of definitions, IDENTIFY OSHA's definition of a hazardous chemical.

EO 8.05 Given a list of reactions, IDENTIFY a hazard as either a physical or a health hazard.

EO 8.06 Given a list of routes, IDENTIFY the routes chemicals can take to enter the body.

EO 8.07 Given a list of definitions, IDENTIFY acute and chronic chemical exposures.

EO 8.08 Given a list of methods, IDENTIFY the methods of detecting the presence or release of a hazardous material.

EO 8.09 Given a list of categories, IDENTIFY the categories of information required on Material Safety Data Sheets.

EO 8.10 Given a list of organs, IDENTIFY the category of toxin that affects a specific organ.

EO 8.11 Given a list of contacts, IDENTIFY the person to contact for Material Safety Data Sheets, chemical inventory information, and container labeling information.

EO 8.12 Given a list of items, IDENTIFY the items that must be provided on a product warning label.

EO 8.13 Given a list of colors or hazards, IDENTIFY the correct hazard or color on the SRS Chemical Hazard Warning label.

VII. Hazard Communication Program

A. Components of OSHA's Hazard Communication Standard

EO 8.01 Given a list of elements, IDENTIFY the five elements of OSHA's Hazard Communication Standard.

Per 29 CFR 1910.1200, at SRS, the HAZCOM Standard consists of five components:

- Written program
- Material Safety Data Sheets (MSDSs)
- Container labeling
- Hazardous chemical inventory
- Training

B. Purpose of OSHA's Hazard Communication Standard

EO 8.02 Given a list of purposes, IDENTIFY the purpose of OSHA's Hazard Communication Standard.

1. The purpose of OSHA's Hazard Communication (HAZCOM) Standard is to protect every employee's "Right to Know" about chemical hazards he may be exposed to on the job.

   a. This "Employee Right-to-Know Law" was revised by OSHA in 1987 to include all employees.

   b. OSHA's Hazard Communication Standard protects the employee's right to work in a safe and healthful environment.

   c. All employees will be trained on hazards that are present in the work area.

2. Chemicals present potential health and physical hazards when they are mishandled, improperly used, or the worker is unaware of the potential hazard associated with the chemical.

3. Working safely with chemical materials is a **TEAM EFFORT.** One person can endanger an entire work group, if he mishandles or improperly stores chemical materials.

4. SRS is working to keep employees safe and healthy on the job and to reduce the risk of injury and illness. Accomplishing these goals requires information and communication about hazardous materials in the workplace.

C. Locations of SRS Written Hazard Communication Program

EO 8.03 Given a list of locations, IDENTIFY locations of the SRS Written Hazard Communication Program.

1. The Chemical Management Center (CMC) of the Procurement & Materials Management Department has the responsibility for development of the SRS Written Hazard Communication Program and its implementation.

2. The written program is located in:

   a. Chemical Management Manual -- 13B, Procedure 2.3

   b. Construction Management Procedures, CMP 11-4.3, for construction employees.

D. Chemical Hazards

EO 8.04 Given a list of definitions, IDENTIFY OSHA's definition of a hazardous chemical.

OSHA's definition of a hazardous chemical is any chemical which is a physical hazard or a health hazard.

EO 8.05 Given a list of reactions, IDENTIFY a hazard as either a physical or a health hazard.

Physical hazards are chemicals that can cause explosions, fires, violent chemical reactions, or other hazardous situations.

Health hazards are chemicals that can cause illness or injury when inhaled, swallowed, touched, or absorbed.

PHYSICAL	HEALTH
Compressed gases	Irritants
Explosives	Corrosives
Flammables	Cryogenics
Unstable/reactive chemicals	Target organ
	Reproductive hazards
	Sensitizers
	Carcinogens

E. Chemical Forms

All chemicals exist in one of three basic forms:

1. **Solids** have a definite shape and can become airborne as dust or fume particles.

   a **Dust** is made up of tiny solid particles. Mechanical operations like grinding produce dust.

   b. **Fumes** are also made up of tiny solid particles. They form by vapor condensation when solids are melted in operations like welding and metal casting.

2. **Liquids** take the shape of their containers and can become airborne as vapors or mists.

   a. **Vapors** are formed above any exposed liquid surface. Heating a liquid makes it vaporize more quickly.

   b. **Mist** is made up of tiny droplets that become airborne when liquids are sprayed, agitated, or applied to a hot surface. Mists also form when hot vapors cool in air and condense.

3. **Gas** is a phase of matter in which the substance expands readily to fill any containing vessel. A gas has neither definite shape nor volume.

F. Five Factors to Consider How Chemicals Affect the Body

1. Route of exposure
2. Toxicity
3. Dosage
4. Workers' individual differences
5. Workplace controls

1. **Route of exposure**

Exposure routes are ways chemicals enter your body. Some chemicals are more toxic by one exposure route than by another. Fox example, onion juice vapor irritates the eyes, but skin contact with onion juice produces little or no effect. In addition, some routes are more direct, depending on the physical state (i.e., solid, liquid, or gas) of the chemical.

Another example: inhalation is the most likely route of entry for vinyl chloride gas at room temperature, whereas skin absorption and ingestion are less likely. A third example: airborne asbestos fibers that are inhaled can induce cancer, but other exposures are not significant.

EO 8.06 Given a list of routes, IDENTIFY the routes chemicals can take to enter the body.

There are four main routes of exposure:

a. **Breathing/Inhalation** takes a chemical from your nose or mouth, down your windpipe, and into your lungs. Some chemicals get trapped in your lungs. Others leave when you breathe out. But many pass from your lungs into your bloodstream.

b. **Skin Absorption** – hazards pass through the skin on contact and enter the bloodstream. Once in your bloodstream, chemicals can spread throughout your body and cause injury or disease far away from the original site of contact. Chemicals can also be absorbed through the mucous membranes of the nose.

c. **Swallowing/Ingestion** takes a chemical from your mouth, down your esophagus, and into your stomach. From there, many chemicals enter the intestines, where they can be absorbed into the bloodstream and spread throughout your body. Damage can be done at any point along the way.

d. **Injection** allows a chemical to enter the body via sharp objects penetrating the skin.

2. Toxicity

Toxicity is relative and depends on:

a. The living organism involved

b. Dose, rate, method, and site of absorption

c. General state of health, individual differences, tolerance, diet, and temperature

Low toxicity – minor symptoms that go away when the exposure stops

Medium toxicity – requires medical attention; may be permanent

High toxicity – can cause death or severely disabling conditions

3. Dosage

Dosage depends on:

a. How **MUCH** you are exposed to each time.

b. How **LONG** each exposure lasts.

c. How **OFTEN** you are exposed.

4. Worker's Individual Differences

The things that make you ***you***, also affect a chemical's effect on you. Traits that play a part in the degree of hazard include:

a. Your work practices

b. Your age and size

c. Your general physical and emotional health

d. Allergies and sensitivities you may have

e. Your level of exertion

f. The combination of chemicals in your body, including what medications you're taking and whether or not you smoke tobacco or drink alcoholic beverages.

EO 8.07 Given a list of definitions, IDENTIFY acute and chronic chemical exposures.

Chemicals have two kinds of effects:

Acute: Characterized by rapid exposure to a harmful material in a short period of time.

Chronic: Characterized by exposure to harmful material in small doses over a long period of time.

No one can predict how a particular chemical will affect a specific individual. Material Safety Data Sheets (MSDSs) tell only what happens to groups of people.

5. Workplace Controls

There are three basic methods of controlling chemical hazards.

a. Engineering Controls

1. **Substitution** – replacing a chemical, process, or piece of equipment with a less hazardous or more efficient one (e.g., steam instead of solvent cleaning).

2. **Isolation** – using an enclosure, barrier, or safe distance to separate workers from exposure hazards (e.g., machine enclosures, enclosed control rooms, splash guards).

3. **General ventilation** – mixing an airborne hazard with fresh air to reduce exposure levels, which is only suitable for hazards of low toxicity that mix readily with air (e.g., fans, make-up air vents).

4. **Local exhaust ventilation** – capturing an airborne hazard as it is released and taking it out of the workplace to eliminate exposure (e.g., hoods, slots, dust collectors)

b. Administrative Controls

1) **Documentation, information, and training** (e.g., warning labels, Hazardous Chemical Inventory, written Hazard Communication Program).

2) **Work practices** (e.g., using all available controls correctly, reporting uncontrolled hazards promptly).

3) **Housekeeping** – containing and removing hazards (e.g., vacuuming toxic dusts, proper storage and handling, correct disposal of chemical wastes).

4) **Monitoring** – checking the effectiveness of other controls (e.g., air and wipe sample for area monitoring, personal sampling for individual monitoring, medical exams, and laboratory tests).

Always be alert for uncontrolled chemical hazards in your workplace. You can see bulk liquids and solids, but most airborne hazards are invisible. You can smell or taste some airborne chemicals, but not others. Some chemicals deaden your sense of smell, but others cannot be detected at the very low levels that can harm you.

Remember – anything you smell or taste is entering your body.

c. Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) puts a barrier between the hazard and the individual who wears the PPE. It can protect against both physical hazards and health hazards.

Examples of PPE include:

- Protective gloves and clothing (e.g., hats, hoods, boots, impervious gloves, cloth gloves, rubber aprons, lab coats, impervious boots)

- Eye and face protection (e.g., safety glasses, splash goggles, and face masks and shields)

- Air-purifying respirators (e.g., respirators with a cartridge or filter that removes contaminants from the air you breathe).

- Air-supplied respirators (e.g., self-contained units that supply air from a tank carried on the back or air-line units that provide air from a remote source).

To protect you, you must match PPE with the specific hazard. For example, cloth gloves are useless for protection against a corrosive liquid. PPE is also useless unless you wear it. Proper fit, correct use, and routine maintenance are also critical.

EO 8.08 Given a list of methods, IDENTIFY the methods of detecting the presence or release of a hazardous material.

In addition to sensing the chemical itself, you can detect exposure hazards by:

- Spotting equipment failures, such as a ventilation system that stops working, damaged chemical containers, or faulty PPE.

- Spotting leaks, spills, fires, explosions, uncontrolled chemical reactions, or other emergency situations.

- Recognizing health effects, such as headache, dizziness, coughing, irritation, or nausea.

- Watching for anything unusual.

G. Material Safety Data Sheets

SRS maintains Material Safety Data Sheets that are received prior to purchase or with incoming shipments of hazardous chemicals, and ensures that they are readily accessible during each work shift to employees when they are in their work areas. Employees are required to obtain MSDSs before using chemicals and to read and use the information in the MSDS. MSDSs are readily accessible through ShRINE.

H. Purpose of Material Safety Data Sheets (MSDS)

1. Reading the container label is a starting place for obtaining product information, but it is not enough. The purpose of Material Safety Data Sheets (MSDSs) is to supply more detailed information concerning the physical and health hazards of the chemical.

2. A Material Safety Data Sheet is a technical bulletin for a pure chemical or a product containing a mixture of chemicals.

I. Information Contained in the MSDS

EO 8.09 **Given a list of categories, IDENTIFY the categories of information required on Material Safety Data Sheets.**

1. Manufacturer's name – identifies the chemical and the manufacturer.

2. Hazardous ingredients – lists what's in the chemical that can harm you and the airborne exposure limits.

3. Physical characteristics – describes the chemical's appearance, odor, and other characteristics.

4. Fire and explosion data – indicates the chemical's potential to catch fire or explode and what puts out the fire safely.

5. Health hazards – lists toxicity information, effects of overexposure, the product's carcinogenicity and target organ effects.

6. Reactivity data – lists materials the chemical should not come in contact with and conditions that would cause a dangerous reaction.

7. Precautions – lists special precautions to follow. At SRS, personal protective equipment is prescribed by the Area Industrial Hygienist.

8. Control measures – Manufacturer recommends protection, ventilation, or other equipment. At SRS, respiratory protection is prescribed by the Area Industrial Hygienist.

9. Special precautions – here you can find a list of any PPE you need to work safely with the chemical.

J. Target Organ Effect

EO 8.10 Given a list of organs, IDENTIFY the category of toxin that affects a specific organ.

1. A **target organ effect** is defined as the damage done to organs of the body from exposure to certain materials or chemicals.

2. Examples of categories of chemicals and their target organs are:

   - Hepatotoxins produce liver damage, such as ethanol and chloroform.
   - Nephrotoxins produce kidney damage, such as mercury, antifreeze and lead.
   - Neurotoxins attack the central and/or peripheral nervous system, such as mercury, ethyl alcohol, and chlorine gas.
   - Hemotoxins affect the blood, such as benzene, lead and carbon monoxide.

- Pulmonary toxins attack the lungs, such as asbestos and silica.
- Cardiotoxins affect the heart rates, such as ethyl alcohol, carbon monoxide, and lead.
- Reproductive toxins affect the reproductive system, such as lead, glycol ether, and carbon disulfide.
- Cutaneous hazards affect the skin, such as greases, acids, PCBs, and fiberglass.
- Eye hazards affect the eye, such as lime, cement and mace.

K. Locations of MSDS

1. ShRINE is the primary source for MSDSs at SRS. Manufacturers' MSDSs have been scanned into a computer database.

2. MSDSs must be readily available for each employee at any time during the work shift. A material should **NEVER** be used without an MSDS on file.

3. You can obtain an MSDS from your Chemical Coordinator.

4. There is one set of MSDS master binders in 704-1N, Document Control. This set is available for 24-hour emergency use and contains all of the MSDSs for the site.

5. Each area should have placards posted that list:

   - Where the MSDSs are located for the area.
   - The name and phone number of the facility or departmental Chemical Coordinator.

L Point of Contact for MSDS

EO 8.11 Given a list of contacts, IDENTIFY the person to contact for Material Safety Data Sheets, chemical inventory information, and container labeling information.

The Chemical Coordinator should be the **FIRST** point of contact when a material is brought into the work area without an MSDS. The Department Chemical Coordinator will provide the Material Safety Data Sheet, product warning label, and hazard communication training information.

In addition, MSDSs are available through ShRINE at anytime of the day or night. Simply type "MSDS" in the menu filter on the ShRINE Home Page.

EO 8.12 Given a list of items, IDENTIFY the items that must be provided on a product warning label.

M. Product Warning Labels

Every chemical container must be labeled with a manufacturer's label. The label must contain:

1. Product name that is traceable to an MSDS
2. Hazard warning
3. Manufacturer's name and address

If the manufacturer's warning label is damaged/missing or the product is transferred to a secondary container, then the SRS Chemical Hazard Rating Label must be used.

N. SRS Chemical Hazard Rating Label

EO 8.13 Given a list of colors or hazards, IDENTIFY the correct hazard or color on the SRS Chemical Hazard Warning label.

1. Chemical hazard ratings are classified by using the National Fire Protection Association (NFPA) standards adapted for use at SRS.

2. The Chemical Hazard Rating Label is a large diamond made up of four smaller diamonds, each representing a different hazard. The severity of the hazard is indicated by a numbering system (within the colored diamonds), ranging from 0 (indicating minimal hazard) to 4 (indicating a severe hazard).

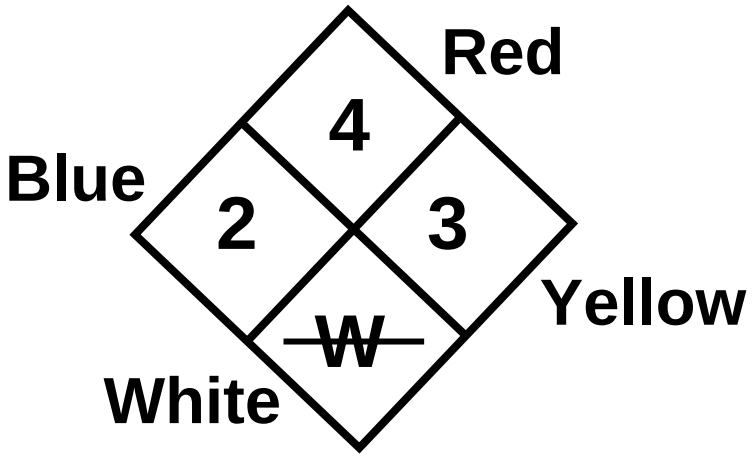
3. Hazard coloring system:

   a. **Blue** represents a health hazard and is always on the left. A health hazard is that which occurs when a chemical brings about an acute or chronic health effect on exposed employees.

   b. **Red** represents flammability and is always on top. There are flammable liquids and solids.

   c. **Yellow** represents instability and is always on the right. There are materials that are water reactive or unstable.

   d. **White**, for special hazards, is always on the bottom.



Health

4	Danger	Life threatening; may be fatal

		on short exposure. Specialized protective equipment required.
3	Warning	Toxic – Major injury, corrosive. Avoid skin contact or inhalation.
2	Warning	Minor injury possible (may burn or cause blistering).
1	Caution	Minor irritation
0		Minimal risk

Flammability

4	Danger	Very flammable gas or liquid
3	Warning	Burns at room temperature
2	Caution	Will burn if moderately heated
1		Must preheat to burn
0		Will not burn

Instability

4	Danger	Will explode
3	Danger	May explode
2	Warning	Violent chemical change possible
1	Caution	Normally stable unless heated
0	Stable	Normally stable

Special Notice

-	None
W	Water reactive
Oxy	Oxidizing agent
C	Carcinogen
R	Reproductive toxin
D	Developmental hazard
Pol	Polymerizes
EXP	Explosive

O. Actions for Skin Exposure

1. **Before you begin work,** ensure adequate safety showers and eye wash stations and note their locations.

2. Immediate action for chemicals on the skin:

a) **DO NOT** attempt to neutralize the acid with a base (or vice versa).

b) Irrigate with **LARGE** amounts of **WATER** until medical help arrives.

c) Contact medical personnel.

Many chemicals produce vapors, fumes, tastes or odors which are discernable to the worker. You should always be aware that these senses are warning you of potential danger. If the job you are performing produces vapors, fumes, tastes or odors, you could be exposing yourself to hazardous chemicals. Contact your supervisor or the Area Industrial Hygienist for proper personal protective equipment or respirator requirements.

P. Spills

1. Assume **ALL** spills are hazardous!

2. Notify your supervisor.

3. Do not attempt to clean up the spill.

Q. Location of the SRS Hazardous Chemical Inventory

At SRS, each division, department or facility maintains its own chemical inventory. The responsibility for conducting the inventory rests with the Chemical Coordinator. Each month the Chemical Coordinator will update the site database and annually verify the inventory for regulatory reporting.

The SRS Hazardous Chemical Inventory is maintained in a sitewide database by the Chemical Management Center.

The inventory can be viewed online at ShRINE or employees may contact their Chemical Coordinator.

R. SRS Hazard Communication Program (HAZCOM) Training Requirements

- Employees shall receive hazard communication training through General Employee Training (GET) and biennially thereafter through Consolidated Annual Training (CAT).

- Employees shall also receive training through facility qualification training and/or Assisted Hazard Analysis when a new hazard is introduced into their work area.

- Subcontractors may have a separate Health and Safety Plan.

- Training helps protect the workers, the public, and the environment.

S. Employee Responsibilities

Employees are responsible for:

1. Reviewing the chemical label and MSDS prior to using the product.

2. Asking your manager/supervisor if you have questions.

3. Notifying your Chemical Coordinator if you:

   a. Plan on bringing new chemicals into the work area.
   b. Find chemical containers with labels that are damaged/unreadable.
   c. Cannot find the MSDS for a chemical in your work area.

4. Applying the SRS Hazard Rating label to any secondary (non-manufacturer) containers or manufacturers' containers that have missing, faded, or damaged labels. Contact your Chemical Coordinator for assistance.

5. Contacting your Area Industrial Hygienist to determine chemical Personal Protective Equipment (PPE) requirements for chemicals that are not covered by procedures or work documents.

6. Wearing PPE as prescribed when using chemicals.

T. Beryllium Awareness

Beryllium Awareness Training is required for all SRS employees. If you perform work, or have the potential to perform work, in a facility that may contain trace quantities of beryllium, your supervisor/manager or STR will inform you, and you will be required to complete Beryllium Associated Worker Training.

Beryllium Associated Worker Training may be completed online at your desktop.

1. Chronic Beryllium Disease Prevention Program at SRS

Federal law requires SRS to implement a beryllium exposure control program. This program must reduce the number of employees exposed and ensure the early detection of diseases associated with beryllium exposure.

The SRS Chronic Beryllium Disease Prevention Program provides program requirements to identify, evaluate, and control occupational exposures to beryllium to below the DOE prescribed exposure limits.

2. Beryllium and Its Uses

Beryllium is a metallic element that occurs naturally in about 30 minerals. It is lightweight (lighter than aluminum), but stiffer than steel. It has a high melting point, conducts heat well, and is corrosion-resistant. Though useful, it can cause serious health problems to those who are exposed to airborne particles.

Beryllium metal has been produced for various industrial uses since the late 1950s, especially in aerospace and defense applications.

Some examples of industrial use include:

- Windshield frames and other structures in high-speed aircraft and space vehicles
- Aircraft and space shuttle brakes
- Satellite mirrors and space telescopes
- Inertial guidance systems and gyroscopes
- Neutron moderator or reflector in nuclear reactors
- X-ray windows
- Nuclear weapons components

In addition to industrial applications, beryllium alloys and compounds are used in products found at home. Some examples are:

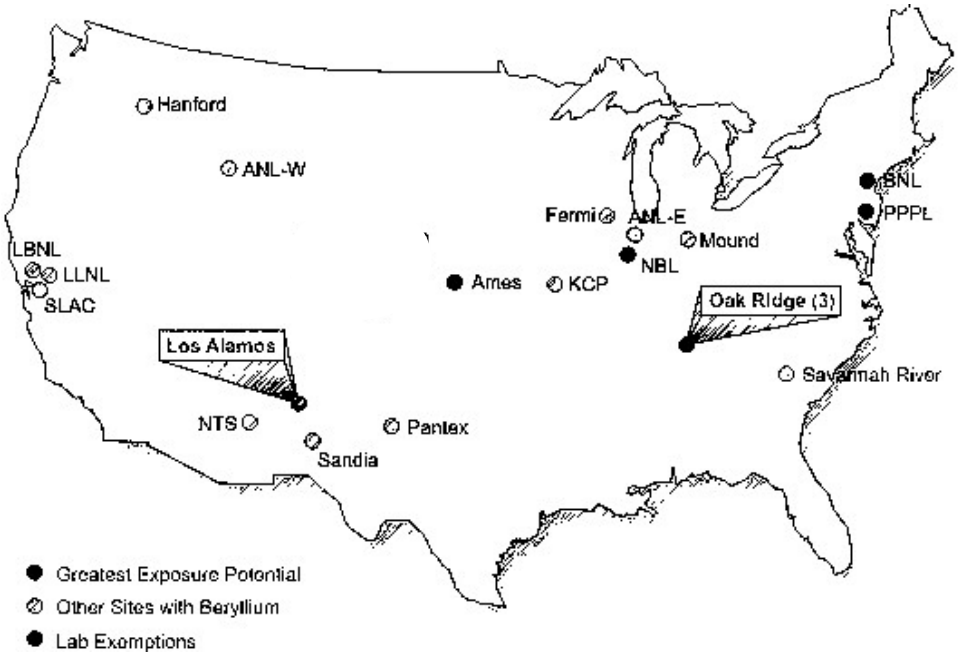
- Bicycles (more expensive models)
- Golf clubs
- Jewelry
- Computer parts
- Air bags in automobiles
- Dental bridges

These products do not pose a health risk.

3. Beryllium Use at DOE Sites

Beryllium is predominately used in engineering, defense, and nuclear weapons technology. Machining, powder pressing, laser cutting, welding, and mechanical testing are the major work activities that have occurred at DOE installations.

Beryllium is found at some DOE sites throughout the country, such as Los Alamos and Oak Ridge. These two sites have the greatest potential for exposure to beryllium in the DOE Complex.



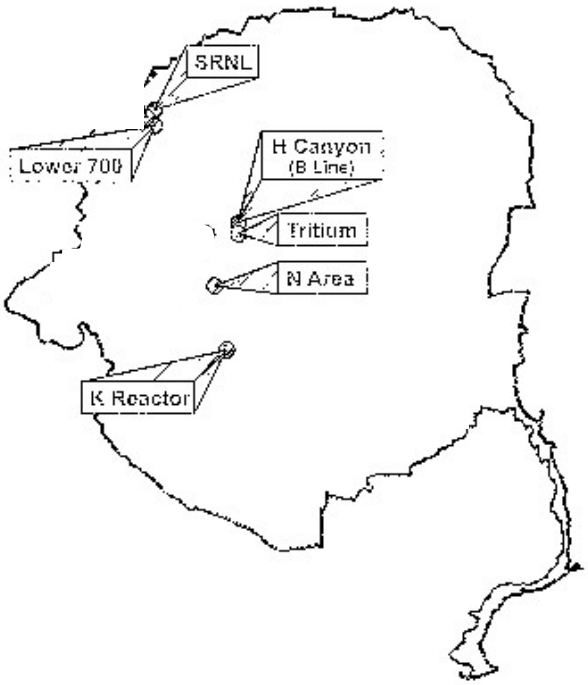
4. Beryllium at Savannah River Site

Historically, beryllium was associated with reactor assemblies, weapon components, radioactive check sources, and research activities at SRS. Current missions involve processing of waste materials from across the complex that may contain trace quantities of beryllium.

Although SRS is not listed as having the "Greatest Exposure Potential" among the DOE sites, there are facilities in some areas where there is a greater potential to find beryllium.

These areas include:

- SRNL
- Tritium
- H Canyon
- K Reactor
- N Area
- Lower 700 Area



5. Beryllium Hazards

Inhalation of beryllium particles may lead to:

- Beryllium Sensitivity
- Acute Beryllium Disease
- Chronic Beryllium Disease
- Lung Cancer

6. Beryllium Controls

DOE requires that exposure be minimized to the extent possible through:

- Engineering Controls
- Administrative Controls
- Personal Protective Equipment (PPE)

Signs and postings at the boundary of all beryllium work areas alert workers and visitors to the possible presence of beryllium.

7. Beryllium Information

For more detailed information on beryllium or beryllium disease, see the site's Beryllium Web Page at **http://shrine01.srs.gov/eshqa/eshqa/ih/hazsubstances_files/beryllium.html**

If you think you may have been exposed to beryllium at SRS or in a previous job, contact the SRS Beryllium Program Coordinator, Marion "Burney" Hook, 730-1B at 952-9942 or through email.

U. Nanoparticle Awareness

Nanotechnology is a rapidly growing field that has the potential to offer significant advances to society.

Like any new technology, we need to ensure we have an adequate understanding of any relevant health, safety, and environmental issues so we can ensure ongoing safety.

Nanomaterials are extremely small particles and are defined as being less than 100 nanometers in two or more dimensions.

For reference, a human hair is more than 100,000 nanometers across.

Nanoscale materials most often occur naturally, but can also be created intentionally. Intentionally-created nanoscale materials are called "engineered nanomaterials."

Some work at SRNL may involve the use or creation of engineered nanomaterials.

Nanoscale materials are not a new phenomenon. Nanomaterials can be solid particles of existing elements (e.g., gold, silver, titanium, etc.) and/or compounds of existing elements. Some nanomaterials may be suspended in gases or liquids. For example, the red and yellow hues in stained glass dating from medieval times result from the presence of nanometer-diameter gold and silver particles.

Nanomaterials may interact with the human body in different ways than conventional materials, due to their extremely small size.

Such small particles may penetrate deeper into the lungs, may be more permeable through the skin, and may have unexpected target organ effects.

Nanomaterials can enter the body through inhalation, ingestion, or permeation through the skin.

While much is still unknown about the toxicology of nanomaterials, we do understand how to respond safely to events involving nanomaterials.

Research has shown that many of the existing controls used in emergency response are effective.

Areas at SRNL in which nanomaterials are in use will be designated with this posting:

Summary

Employees have the right and responsibility to work in a safe environment. Information about chemicals and their proper use is extremely important to worker safety.

Answer the self-check questions below. The answers are in the back of this study guide.

1. What is the purpose of the OSHA Hazard Communication Standard?

   A. To provide employees with guidelines for communicating safely with one another.
   B. To provide employees with guidelines for use of communication equipment.
   C. To protect every employee's "Right to Know" about chemical hazards in the workplace.
   D. To protect employees against gossip on and off the job.

2. What part of the body does a neurotoxin affect?

   A. Kidneys
   B. Nervous system
   C. Heart
   D. Eyes

3. Identify the type of hazards portrayed by the SRS Chemical Hazard Warning label.

   A. Red-reactivity, blue-health hazard, white-flammability, blue-special hazard
   B. Red-flammability, white-special hazard, blue-health hazard, yellow-reactivity
   C. Blue-reactivity, red-reactivity, white-special hazard, yellow-flammability
   D. White-reactivity, yellow-flammability, red-special hazard, blue-health hazard

4. Select where you would go to find information about the health hazards of a chemical.

   A. Safety Manual
   B. Environmental Sheet
   C. Employee Benefits Manual
   D. Material Safety Data Sheet

5. Identify the person you need to contact before bringing hazardous materials onsite.

   A. Department Chemical Coordinator.
   B. Department Environmental Coordinator.
   C. WSI Review Board
   D. Area Safety Inspector

6. What is one item that is required on a chemical product warning label?

   A. Manufacturer's name
   B. Barcode sticker
   C. OSHA stock number
   D. EPA phone number

ENVIRONMENTAL PROGRAM

Enabling Objectives:

EO 9.01 Given a list of resources, IDENTIFY the primary environmental regulatory resource at SRS.

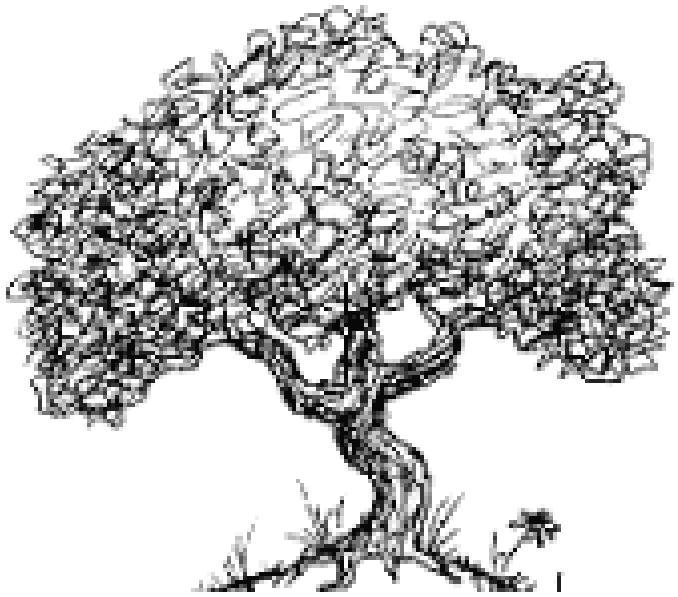
EO 9.02 Given a list of contacts, IDENTIFY the primary line organization contact.

EO 9.03 Given a list of terms, IDENTIFY the four types of solid waste.

EO 9.04 Given a list of programs, IDENTIFY the three primary Waste Minimization Programs used at SRS.

EO 9.05 Given a list of responsibilities, IDENTIFY designated RCRA/CERCLA units and the employee's responsibility before entering such areas.

EO 9.06 Given a list of responsibilities, SELECT the employee's responsibility to environmental protection.



IX. Environmental Programs

A. Purpose of the Environmental Management System (EMS)

Many things we do at SRS can impact the environment. To ensure that these things are done properly, SRS has established an environmental management system. Our Environmental Management System (EMS) helps to ensure that what the we do maximizes the safety of employees, the public, and the environment while complying with all relevant laws and regulations.

All personnel – contractors and subcontractors – must comply with all laws and site procedures pertaining to the environment at SRS.

B. Primary Environmental Regulatory Resource at SRS

EO 9.01 Given a list of resources, IDENTIFY the primary environmental regulatory resource at SRS.

The primary environmental regulatory resources at SRS are Environmental Subject Matter Experts (SMEs). Some of the environmental professionals are located in the Environmental Services (ES) section of the SRNS Environment, Safety, Health and Quality Assurance (ESH&QA) Department. Others are assigned within other site organizations. Their responsibilities are:

1. Coordinate the development and implementation of site-wide environmental programs to meet SRS policy and regulatory requirements.

2. Interface with DOE, state, and federal agencies on environmental issues. Routine discussions with the regulators on environmental matters must include the environmental Subject Matter Expert for that particular environmental law/media.

3. Interpret environmental regulations.

4. Provide compliance-based oversight of SRS environmental activities.

5. Coordinate environmental audits conducted by DOE, state and federal regulatory agencies and other organizations.

NOTE: Environmental SMEs are listed in the "Environmental Knowledge Portal" in ShRINE.

C. Primary Line Organization Contact

EO 9.02 Given a list of contacts, IDENTIFY the primary line organization contact.

The primary line organization contact for environmental matters is the Environmental Compliance Authority (ECA). Each major SRS organization has an Environmental Compliance Authority.

Environmental Compliance Authorities are knowledgeable in environmental requirements and specific regulatory protocol for Facility and Area projects. They are **YOUR primary contact on environmental matters**. All personnel should know the name of their Environmental Compliance Authority. Environmental Services maintains a list of the Site Environmental Compliance Authorities. You can also locate your local ECA on ShRINE.

ECAs:

1. Review National Environmental Policy Act (NEPA) / Environmental Evaluation Checklists on new or modified SRS projects to identify environmental regulatory requirements.

2. Assist in environmental planning by recommending resources and funding needs.

3. Answer questions on how your work might affect the environment and assist with meeting environmental requirements.

D. Management of Solid and Hazardous Waste

EO 9.03 Given a list of terms, IDENTIFY the four types of solid waste.

Solid waste must be managed in accordance with federal and state regulations. Guidance is provided by your Environmental Compliance Authority (ECA).

1. Solid wastes are discarded items subject to specific regulatory requirements for handling and disposal. A solid waste is:

   a. **Non-hazardous**

   b. **Hazardous**

   c. **Radioactive, or**

   d. **Mixed (both hazardous and radioactive)**

2. Care must be taken to handle these wastes appropriately to assure proper disposal. Contact your management or Environmental Compliance Authority for guidance on disposal of solid waste.

3. Hazardous waste must be managed in accordance with federal and state regulations. Many common items, such as paint or aerosol cans, or rags used for cleaning up, may be classified as hazardous waste, and must not be placed in dumpsters. Contact your Environmental Compliance Authority for guidance.

4. **Separate** waste into non-hazardous, hazardous, or radioactive waste for proper treatment (compaction), packaging, and disposal.

5. Before pouring waste or chemicals out or down a drain, an employee must consult the building custodian (the manager of the building) or the Department Environmental Compliance Authority. Drains that flow into any surface water on or offsite are strictly controlled by state and federal regulation permits.

E. Pollution Prevention (P2)

SRS is required to have programs in place to minimize waste and pollutants in order to comply with federal, state, and local regulations and DOE Orders. The Pollution Prevention (P2) Program manages waste minimization and the reduction and/or elimination of pollution across the site.

P2 occurs when:

1. Resources are used more efficiently.
2. Less harmful substances are substituted for hazardous ones.
3. Toxic substances are eliminated from the production process.

SRS employees are responsible for implementing waste minimization through:

1. **Source Reduction** -- avoiding or reducing the generation of solid hazardous or radioactive waste by:

   - Substituting less toxic materials.
   - Using reusable non-disposable products.
   - Practicing good housekeeping.
   - Correctly estimating for materials in the planning process.
   - Purchasing and using only what the job requires.
   - Unpacking products before entering a Radiological Buffer Area (RBA).

2. **Recycling** materials through site recycling and excess programs

NOTE: There is a Pollution Prevention website on ShRINE. Type “P2” in the filter.

EO 9.04 Given a list of programs, IDENTIFY the three primary Waste Minimization Programs used at SRS.

3. The three primary waste minimization programs used at SRS are:

   a. **Site Excess Program** for items that are still useful. Examples include: equipment, tools, computer hardware and software, furniture, office supplies, uniforms, etc. The items are only for business use onsite. **NOTE:** This program is for SRNS and SRR employees. Subcontractors, suppliers and vendors are not permitted to participate in this program.

   b. **Site Salvage Program** for scrap materials. Examples include: scrap metal, lead-acid batteries, tires, wood, etc

   c. **Recycle Program** for such items as white office paper, cardboard, aluminum cans, printer toner cartridges, antifreeze, paint solvents, lead, etc.

F. What Can You Do to Reduce Waste?

Waste minimization is integrated into policies, operating procedures, daily activities, and business decisions. Some examples of what you can do to reduce waste include:

1. Designing facilities and processes for efficient operations that generate little or no waste.

2. Using non-hazardous, non-toxic materials.

3. Considering and planning for the material, equipment, and waste storage that may be created during construction, operations and eventual shutdown of a process or facility.

G. RCRA/CERCLA Units

EO 9.05 Given a list of responsibilities, IDENTIFY designated RCRA/CERCLA units and the SRS employee's responsibility before entering such areas.

1. In the early years of SRS, waste was disposed of in seepage basins, rubble piles, and ash pits. Modern technology has replaced these practices. However, many of these areas still exist on site today. These areas have been designated as **"Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation and Liability Act (RCRA/CERCLA) Units"** and are in the process of being cleaned up.

2. These units are clearly **marked with orange balls and/or signs.**

3. An employee or subcontractor should not enter, begin work in or around, or disturb the area, unless contact has been made with the SRNS Soil and Groundwater Closure Projects custodian or SRNS Environmental Services (ES).

H. Employee's Responsibilities

EO 9.06 Given a list of responsibilities, SELECT the employee's responsibility to environmental protection.

1. The employee has a responsibility **to comply** with SRS environmental regulations.

2. Employees should always **consider the effects** their jobs have on the environment by making sure their work habits and conditions comply with environmental policies.

3. If there is a non-compliance issue, an employee should report the incident or finding to his immediate supervisor or manager, and the proper organization.

4. Notification of spills is very important. To report a spill, contact your supervisor/manager, or your Environmental Compliance Authority. You may also call the SRSOC at 3-3911 (from a site phone) or (803) 725-3911 (from a cell phone).

   All hazardous spills and releases to the environment must be reported immediately.

5. Employees may be held liable for non-compliance.

I. Summary

Complying with and implementing environmental regulations for the safety of employees, the public, and the environment is extremely important for the future of SRS. All employees are responsible for complying with the environmental regulations and reporting non-compliance issues.

	*Answer the self-check questions below. The answers are in the back of this study guide.*	

1. The four types of solid waste are _____, _____, _____, and _____.

2. The technique of limiting or avoiding the generation of hazardous or radioactive waste is called _____.

   A. Recycling
   B. Compacting
   C. Waste Solidification
   D. Source Reduction

3. If you have a question about disposing of pesticides, paint, or other harmful products, your primary point of contact is your _____.

   A. Hazard Communication Manager
   B. Environmental Compliance Authority
   C. Industrial Hygienist
   D. Supervisor

4. The waste minimization program used for scrap materials such as lead-acid batteries and tires is the _____.

5. How are RCRA/CERCLA Units identified?

   A. Red and white signs
   B. Green flags
   C. Magenta balls
   D. Orange balls

SRS CODE OF BUSINESS ETHICS AND CONDUCT

Because this is a briefing, there are no enabling objectives for this lesson.

X. SRS Code of Business Ethics and Conduct

It is not expected that every employee or manager will be fully versed in every law affecting his responsibilities. However, it is required that all employees will have a working knowledge of permissible activities involved in their work, and will seek guidance from the General Counsel's Ethics Office concerning any matter in which there is any question.

All employees are responsible for performing their work in compliance with the laws and standards of ethical and moral conduct. All managers are responsible for enforcing and complying with this policy, including communicating this policy to their employees to ensure employee knowledge and compliance.

A. Ethics Principles

1. The three principles that comprise the SRS Code of Business Ethics and Conduct Policy are:

    a. Contractor and subcontractor employees shall comply with all laws governing SRS operations.

    b. Business shall be conducted in accordance with the highest moral, legal, and ethical standards.

    c. Compliance with the law not only means following the law, but conducting business in a manner that reflects positively on SRS personnel as good and law-abiding citizens; we avoid impropriety and the appearance of impropriety.

2. Subcontract employees are bound by the terms of their contract with the site. Usually, the contract will require compliance with site administrative policies, which includes the SRS Code of Business Ethics and Conduct. If so, then subcontract personnel would be bound by their own ethics policy and the SRS Code of Business Ethics and Conduct, with the SRS Code taking precedence if it has stricter requirements.

B. Guidelines for Specific Ethical Issues

1. Supplier relationships

Only discuss business-sensitive information that is required to get the job done under the contract.

a. Do not provide any inside information. Do not accept or exchange gifts. Do not ask for or accept any kickbacks. A kickback is defined as anything of any value given in return for improper favorable treatment under a contract. Kickbacks are illegal and could result in dismissal and criminal prosecution. If you become aware of a situation involving a kickback, report it. You may report it anonymously, if you prefer!

b. Offsite, there should be no discussions about non-public business, financial information, personnel, or technological information, plans, programs, or other confidential business data acquired during employment at Savannah River Site.

2. Customer relationships

Be honest regarding proposals, costs, records, expense reports, and time cards; fill out all forms honestly and completely.

3. Government resources

Resources are to be used for official use only. However, it is considered official business for SRNS and SRR employees to make copies of completed company medical claims forms. Employees are the best backup record keeper for these forms.

Employees are not permitted to play games on government computers, even on their own time. Personal use of government computers is not permitted. Exchange or sharing of software is not permitted. Personal software, under certain circumstances, may legitimately be used on government computers. Contact your manager or STR and review the Computer Security section in this study guide for applicability and approval.

4. **Political activities**

Political activities must be conducted on your own time and with your own resources. Do not display campaign literature, buttons, etc., in the workplace. There is no ban on political bumper stickers.

5. **Conflicts of interest**

If you have an outside business interest, it must not divert too much time and attention from your SRS responsibilities.

If you used to work for a subcontractor to the site, but accept a job with SRNS or SRR, you may not be put in a position of responsibility (oversee, inspect, audit, etc.) over your former subcontractor company for two years.

If you leave employment with SRNS or SRR to work for a subcontractor to the site, you must inform your management or your STR. This must be reviewed by your respective Ethics Office.

6. **Insider Trading**

Beware of insider trading. It is against the law for an SRNS or SRR employee, or anyone, to trade in any company's stock while in possession of material nonpublic information ("insider information").

C. Compliance and Disclosure

1. You are responsible for your ethical behavior and for reporting possible violations to your supervisor.

2. You may express concerns to your supervisor or go directly to the Ethics Office.

3. The SRNS Ethics Office Help Line is **(803) 725-8181.** The SRR Ethics Office Help Line is **(803) 557-8000**. The offices maintain a 24-hour answering machine service. The telephones have no caller ID capacity and the calls are not taped. If you call the Ethics Help Line during work hours, you will be referred to an Ethics Officer. After work hours, you may leave a message and you will be contacted the following work day. You may report anonymously, if you prefer.

D. Potential Disciplinary Actions

1. Disciplinary measures may be applied to all employees who fail to comply with the law and the SRS Code of Business Ethics and Conduct.

2. Disciplinary action may be taken not only against individuals who authorize or participate directly in violations of the Code or other policy, but also against:

    a. Any employee who may have deliberately failed to report a violation.

    b. Any employee who may have deliberately withheld relevant and material information concerning a violation.

    c. The violator's managers, to the extent that the circumstances of the violation reflect inadequate supervision or lack of diligence.

    d. Any supervisor who attempts to retaliate or encourage others to retaliate, directly or indirectly, against an employee who reports a suspected violation.

3. Consequences:

    a. Reprimand
    b. Probation
    c. Suspension
    d. Demotion
    e. Dismissal

Summary

Remember, we are all responsible for performing our jobs in compliance with the laws and standards of ethical and moral conduct. Address your questions about ethics to the SRNS Ethics Office at (803) 725-8181 or the SRR Ethics Office at (803) 557-8000, anonymously if you prefer. Report noncompliance to your supervisor or your respective Ethics Office.

Operating Experience Program

Because this is a briefing, there are no enabling objectives for this lesson.

XI. Operating Experience Program

A. Purpose of the SRNS Operating Experience Program

The purpose of the SRNS Operating Experience Program is to identify and distribute lessons learned by others and to share lessons from our own experiences, including "near misses," to prevent events from occurring and to prevent reoccurrence.

The program reviews experiences in:

- Quality
- Personnel safety and health
- Process safety
  - Conditions causing degradation of operations and equipment.
  - Conditions capable of negative impact on the environment and public confidence.

The review and application is undertaken for both internal and external experiences.

- Savannah River Site facilities
- Similar DOE complex facilities
- Commercial nuclear industry facilities

The review and application is undertaken not only for events, but also for near misses (actions or conditions that had the potential for an occupational injury/illness or property damage when an unplanned event occurred).

B. Examples of Lessons Learned

Hanford Trailer Fire Due to Faulty Surge Protector

In June 2006, as part of its normal duties, the SRS Operating Experience Program reviewed an event from Hanford where a trailer caught fire due to a faulty surge protector. Hanford determined that some surge protectors sold before 1998 did not prevent overheating. The SRS Operating Experience Program distributed the information to the SRS Senior Electrical Review Board (SERB) for further review.

After additional study, and in conjunction with Senior Management, the SERB initiated a sitewide review and replacement of certain unapproved surge protectors in order to prevent a similar fire occurrence at SRS.

Small Fire In Microwave

In December 2007, a small fire broke out in a microwave at the Los Alamos National Laboratory (LANL). An employee had placed her Starbucks plastic coffee mug in the microwave to reheat her coffee, just as she had done several times before without incident. She thought she had set the timer for 45 seconds. She left the room for about 10 minutes, saw smoke in the area, returned to the break room and noticed her mug was on fire. She immediately called 911 and activated a building pull station as she left the room.

Remember these safety rules when using a microwave:

- Ensure the container is microwave-safe. Subsequent research found a similar Starbucks plastic coffee mug. One of its product features indicated that the coffee mug was not microwavable.
- Select the correct temperature and time settings.
- Remain at the microwave until completion.
- Be careful removing the heated item.

C. Roles of Key Operating Experience Personnel

1. The Site Operating Experience Group administers the program for the site by screening and distributing applicable lessons learned information.

2. Organization/Project Operating Experience Coordinators implement and direct their own Organization/Project Operating Experience Programs.

3. The SRNS Operating Experience Program Coordinator tracks the evaluations and corrective action implementations that the Organization/Project Operating Experience Coordinators record in the Site Tracking Analysis, and Reporting (STAR) system. The SRNS Operating Experience Program Coordinator also provides oversight for all Organization/Project Operating Experience Programs.

4. Responsibilities of All Site Employees

    a. Avoid an attitude of “we’ve always done it this way” (not a sound approach to fulfilling tasks).

    b. Be alert to abnormal conditions in the workplace and report these conditions to management.

c. Do not assume that someone else has reported a condition (Often, irregularities are common knowledge to employees working in the facility, but no effort is made to correct or report them).

d. Management, in turn, needs to initiate efforts to have abnormalities corrected.

e. Develop a mind-set of questioning consequences of an action before initiating it.

REMEMBER: If you discover a situation or a problem with equipment that others can learn from, tell your supervisor or your STR.

Summary

The purpose of the SRNS Operating Experience Program is to identify and distribute lessons learned by others and share with fellow employees lessons from our experiences, including “near misses,” in an attempt to prevent occurrence and reoccurrence.

Rules of Conduct

Proper conduct, both on and off the job, is expected of all employees. Improper conduct at Savannah River Site is not tolerated. The Rules of Conduct are not intended to be all-inclusive and do not cover every situation that may arise. Any conduct that violates common decency or threatens the maintenance of safety, efficiency, effectiveness, and/or productivity in the workplace is cause of disciplinary action, even if such conduct is not specifically defined in the Rules of Conduct. These rules are published for employees' information and protection. Ignorance of work rules is not an acceptable excuse for violation. Violations of the Rules of Conduct may warrant disciplinary action, up to and including termination of employment:

- Insubordination or deliberate refusal to comply with reasonable requests or instructions
- Engaging in a fight, or in an activity that could provoke fighting
- Horseplay
- Organizing, operating, conducting or participating in gambling, specifically including sports pool betting
- Using or divulging, without SRNS consent, any Sensitive Unclassified Information (SUI), for example, Unclassified Controlled Nuclear Information (UCNI) and Official Use Only (OUO), acquired through employment
- Willful disregard of safety rules and procedures, including tampering with equipment, alarms, locking devices, Radiological Protection (RP) instruments, Thermo-Luminescent Dosimeter (TLD) badges, and bioassay samples
- Failure to use or wear designated safety equipment
- Willful action or inaction resulting in injury to personnel
- Damage or loss of government-owned or leased equipment
- Unauthorized absence and/or excessive excused/unexcused absences from work assignment
- Unsatisfactory job performance
- Any action or inaction based on race, color, religion, gender, age or national origin of an employee, former employee or applicant which affects the individual's rights, privileges, benefits, dignity, equality, or economic opportunity
- Actions of a sexually harassing nature
- Making false, unfounded or highly irresponsible statements against other employees, management, or subordinates
- Illegal conduct, conduct unbecoming a SRNS employee, or conduct damaging to the company, the Site and/or the Department of Energy's public image
- Failure to fully cooperate and/or provide requested information, making false statements, or intentionally misleading investigators or management during the course of a company investigation
- Use, possession, or threatened use of weapons, ammunition or explosives
- Taking or receiving, without authorization, leased property or property belonging to SRNS, fellow employees, or the government

- Improper protection, handling, and safekeeping of all leased or government-owned equipment
- Unauthorized disposition, dismantling, or removal of parts from leased or government-owned equipment
- Dishonest acts and falsification of procedures, records or reports, including the giving of false information when hired, cheating on tests, etc.
- Unauthorized use, possession, sale or distribution of alcohol, drugs or controlled substances at SRNS facilities or on the Savannah River Site
- Concealing or producing defective work through willfulness, carelessness or negligence
- Sleeping
- Failure to report an on-the-job injury to management and Site Medical on the day it occurs or failure to promptly report all other injuries or suspected injuries
- Tampering with bulletin boards, defacing government property, or posting unauthorized notices and non-business related material
- Improper parking or operation of vehicles
- Unauthorized use or abuse of government property, including computers, telephones, faxes, etc.
- Inappropriate or improper actions or gestures that could cause an adverse reaction on the part of other employees, management, or subordinates
- Unauthorized activities such as hunting, fishing, swimming, boating, social outings, etc.
- Acts of intimidation, discrimination, harassment, or retaliation against any individual who has voiced a concern in accordance with the SRS Open Communication Policy

Dress Code

The perception of our performance by our customer and others is strongly influenced by our appearance. Therefore, employees shall complement professional behavior by reporting to work with their personal appearance appropriate for their position and job assignment.

Employees should be well-groomed and not present an unkempt appearance. Bulk and length of hair, including facial hair, shall be such that it will not interfere with the proper fit of headgear, respiratory equipment and all other operating equipment as required by the facility.

The policy is intended to help cultivate and promote a "common sense" approach.

The following attire is considered inappropriate:

- Articles of clothing (including headgear) with writing, diagrams, etc., that are vulgar, profane, or otherwise offensive
- Dungarees and blue jeans in work spaces which require more professional attire
- Abbreviated clothing such as shorts, tank tops (muscle shirts), tube tops and crop tops
- Ragged or torn clothing of any kind
- Sandals or open-toed shoes in areas where they constitute a safety hazard
- Slippers and flip-flop sandals in any area, except when required for medical reasons
- Apparel such as very short skirts and other articles of clothing that may cause inattention in the workplace
- Hats worn in control rooms, office spaces and other areas where they serve no functional purpose
- Modesty clothing worn anywhere except to and from change-out facilities. What is specifically allowed as modesty clothing shall be defined at the site level.
- Sweat suits, jogging suits and warm-up attire except as provided by SRNS

This policy is applicable to SRNS employees and its subcontractors whenever they are within SRNS facilities or attending company-sponsored functions (other than recreational and company-sponsored "housekeeping days").

The Dress Code guidelines are to be used as a site-wide baseline; when discordance arises, the employee's immediate manager is responsible for interpreting and determining whether attire is appropriate.

When an employee's supervisor determines that the individual has violated this Dress Code, the supervisor shall notify the individual of the violation -- and ensure the individual understands the Dress Code requirements. Violations that must be immediately corrected will result in the individual being sent home (on his or her own time) to correct the violation. Repeated violations will be grounds for further disciplinary action.

DOE Designated Sensitive Countries List

Algeria	Kyrgyzstan
Armenia	Libya
Azerbaijan	Moldova
Belarus	Pakistan
China, People's Republic of	Russia
Cuba	Sudan
Georgia	Syria
India	Taiwan
Israel	Tajikistan
Iran	Turkmenistan
Iraq	Ukraine
Kazakhstan	Uzbekistan
Korea, Democratic People's Republic of (North Korea)	

All employees, whether cleared or uncleared, must report all travel (business or personal) to any of these countries and also all travel to any non-sensitive country. Contact the Office of Counterintelligence, Savannah River Site at (803) 725-5086 30 to 45 days in advance of travel. Contact the same office for further information regarding counterintelligence issues surrounding foreign travel.

ACRONYMS

ALARA	As Low As Reasonably Achievable
AMS	Asset Management Specialist
CAT	Consolidated Annual Training
CI	Counterintelligence
CIF	Consolidated Incineration Facility
CND	Criticality Neutron Dosimeter
COI	Conflict of Interest
dBA	Decibels, A-Scale
DNO	Do Not Operate
DOE	Department of Energy
DOE-SR	Department of Energy-Savannah River
DWPF	Defense Waste Processing Facility
ECA	Environmental Compliance Authority
ECP	Employee Concerns Program
E&I	Electrical & Instrumentation
ERO	Emergency Response Organization
FOIA	Freedom of Information Act
GA	Georgia
GERT	General Employee Radiological Training
GFE	Government-Furnished Equipment
GSA	General Services Administration
HAZCOM	Hazard Communications Program
IH	Industrial Hygiene

JPA	Job Performance Aid
L/T	Lockout/Tagout
MOX	Mixed Oxide Fuel
mrem	Millirem
MSDS	Material Safety Data Sheet
NNSA	National Nuclear Security Administration
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
OUO	Official Use Only
PC	Personal Computer
PCM-1B	Personnel Contamination Monitor 1B
PM-6A	Portal Monitor 6A
POE	Point of Entry
POEE	Personally-Owned Electronic Equipment
PPA	Property Protection Area
PPE	Personal Protective Equipment
QA	Quality Assurance
QAP	Quality Assurance Program
R&D	Research and Development
RBA	Radiological Buffer Area
RCRA/ CERCLA	Resource Conservation and Recovery Act/ Comprehensive Environmental Response, Compensation and Liability Act
REM	Roentgen Equivalent Man

RP	Radiological Protection
RWP	Radiological Work Permit
SAS	Safety Alarm System
SC	South Carolina
SCA	Soil Contamination Area
ShRINE	Savannah River Information Network Environment
SME	Subject Matter Expert
SNM	Special Nuclear Material
SPO	Security Police Officer
SREL	Savannah River Ecology Lab
SRS	Savannah River Site
SRSOC	Savannah River Site Operations Center
SRNL	Savannah River National Laboratory
SRNS	Savannah River Nuclear Solutions
SRR	Savannah River Remediation
STR	Subcontract Technical Representative
SUI	Sensitive Unclassified Information
TEF	Tritium Extraction Facility
TLD	Thermoluminescent Dosimeter
URMA	Underground Radioactive Material Area
USFS	United States Forest Service
WBC	Whole Body Count
WSI	Wackenhut Services, Inc.

COMPUTER SECURITY CODE OF CONDUCT

(Procedure Manual 10Q Computer Security, Section: Appendix 602, Rev. 03, 4-11-2005)

The Code of Conduct applies to any user of a computer system, a network, or anyone who processes information under the cognizance of SRS. Inappropriate use exposes SRS to risks, which include compromise of information, networks and services, and legal issues.

MONITORING AND EXPECTATION OF PRIVACY

Federal computer systems used by SRS are the property of the United States Government. These systems are for limited use only. Users (authorized and unauthorized) have no explicit or implicit expectation of privacy. Any and all use of such systems and all files on such systems may be intercepted, monitored, recorded, copied, audited, inspected or disclosed to authorized SRS, Department of Energy and law enforcement agencies, as well as authorized officials of other agencies, both domestic and foreign. By using these systems, the user consents to such interception, monitoring, recording, copying, auditing, inspecting or disclosure at the discretion of authorized personnel. Unauthorized or improper use of these systems may result in administrative disciplinary action, and civil and criminal penalties.

Non-federal computer systems approved for use by SRS are subject to the same monitoring and inspection requirements as stated for federal computer systems.

GENERAL USE

- Government computer resources are only for government business and must only be used in accordance with the terms of this Code of Conduct and the requirements in the DOE – Savannah River Operations Office (SR) Policy 98-05, SRNS 10Q Manual or the Wackenhut Services Incorporated-SRS Standard Procedure 1-2253, as applicable.

- Foreign Nationals must obtain special written approval from DOE-SR prior to accessing each computer or system.

- Users must notify the resource owner of any change in status that will affect their access (e.g., organization, clearance, employment status).

- Computer systems, software or other associated media are not to be released from SRS control without sanitization or receiving Scientific & Technical Information approval by submitting the appropriate documents as they apply to your organization: SR-60 (Document Review Sheet) or OSR 14-357 (SRNS Scientific Technical Information Release).

- Report any known unprotected sensitive or classified information, or any violation of this Code of Conduct, to the system manager or a representative of Computer Security.

SYSTEM PROTECTION

Prohibited Actions

- Introduction of malicious programs into the network or server (e.g., viruses, worms, Trojan horses, e-mail bombs).
- Creating or forwarding "chain letters," "Ponzi" or other "pyramid" schemes of any type.
- Connecting an SRS computer to non-SRS computers or networks.
- Effecting security breaches and/or disruptions of network communication.
- Executing any form of unauthorized network monitoring which will intercept data.
- Circumventing user authentication or security of any host, network or account.
- Using privately-owned equipment and/or unauthorized software to perform official site business or to connect to SRS-operated systems (e.g., desktops, laptops, and networks) without Computer Security's approval.
- Use of a computer to actively engage in acquisition, transmission, or to display material that is in violation of SRS' sexual harassment or hostile workplace policy.

Required Actions

- All systems, including stand-alones, shall continuously execute approved anti-virus software with a current virus database.
- All unnecessary information is to be removed and reasonable precautions taken to protect the system when a computer is removed from SRS facilities.

INFORMATION PROTECTION

Prohibited Actions

Violations of copyright, trade secret, patent or other intellectual property, or similar laws or regulations, including, but not limited to, the installation or distribution of "pirated" or other software products that are not appropriately licensed for use by SRS.

Required Actions

- Users are responsible for obtaining and complying with software licensing agreements.
- Know the classification level and sensitivity category of the information before computer processing. Only process information on computers approved for that information. If unsure of the data classification, contact a Derivative Classifier/Reviewing Official (DC/RO) for guidance.
- Electronic sensitive information should be properly protected according to SRS organizational policies and procedures. Access to sensitive information should be limited based upon clearance/authorization, and need-to-know. This can be accomplished using a variety of methods, including password (e.g., screen saver, start-up), encryption, or physical security measures. All media containing sensitive information should be properly labeled.
- Sensitive information transmitted over unprotected public networks (e.g., Internet) must be encrypted according to the sensitivity level of the information. Official Use Only information does not require encryption; however, encryption should always be considered. When encryption is not available, then alternative methods may be used in accordance with DOE M 471.3-1, "Identifying and Protecting Official use Only Information."
- Password selection should follow DOE G 205.3-1 "Password Guide."

    - At least 8 alpha-numeric characters in length, not easy to guess, begin and end with an alpha character, contain at least 1 special character, and be easy to remember, but not identifiable with the user. If the system being used will not fully support these rules, implement the rules to the fullest extent allowed by the system. Specific password rules stated in individual security plans take precedence over these general password rules.
    - Passwords are to be protected to at least the level of protection required for the data.
    - Passwords are not to be auto-entered or auto-saved by any application (e.g., log-in scripts, IE dialogs).

EXCEPTIONS

Exceptions to this Code of Conduct require approval by the Computer Security Site Manager (CSSM)/Information System Security Site Manager (ISSSM) or Alternate Computer Security Site Manager (ACSSM)/Alternate Information System Security Site Manager (AISSSM).

Answers to Self-Check Questions

General Description of the Site

1. B. Wackenhut Services, Inc.
2. A. Department of Energy – SR
3. D. Savannah River National Laboratory (SRNL)

Initial Security Briefing

1. B. Property Protection Area (PPA)
2. B. Ammunition
3. C. You must wear your seat belt
4. D. Property Pass

Emergency Management Program

1. C. Listen for more information over the PA system
2. B. Horn
3. C. A U.S. Forest Service worker conducting a prescribed burn.
4. A. Ensure his communications equipment is working and turned on
5. A. The package is unusually heavy or lopsided

Occupant Fire Safety

1. oxygen, heat, fuel, and a chemical chain reaction
2. D. B,C
3. A
4. C. Have an exit behind you and back toward the exit.
5. Pull, aim, squeeze, sweep
6. D. horn

General Employee Radiological Training

1. A. The risks from working in the nuclear industry are lower.
2. D. Cosmic, radon, the earth's crust
3. A. Smoke detectors, medical x-rays, nuclear medicine
4. A. 100 mrem/year
5. B. Posting radiological signs colored yellow and magenta
6. C. Controlled Area
7. B. PCM-1B
8. B. Re-monitor two additional times on that monitor.
9. A. Keep your radiation exposure as low as reasonably achievable (ALARA)
10. C. Tell your supervisor so he can arrange Radiological Worker escort for you (because you cannot enter a Radiological Buffer Area by yourself).

Site-Related Policies and Procedures

1. D. Reporting to and staying at work free from the effects of alcohol
2. A. Stop work as soon as it's safe to do so and notify your supervisor
3. B. To ensure risks to safety and the environment are minimized
4. D. Not following requirements on a Radiological Work Permit
5. D. DOE-SR Employee Concerns program

Health and Safety Program

1. D. Employees have the right to express concerns about worker safety and health.
2. A. Taking shortcuts through construction areas.
3. C. To warn employees of a hazard and/or limit entry.
4. C. The work scope has changed.
5. D. Strike-anywhere matches.
6. B. Coffee spilled on the floor.
7. A. Danger-Do Not Operate (DNO) - Hazardous Energy Control Tag
8. B. Call 3-3911 and the Rescue Team will rescue the employee.
9. B. Visually inspect all equipment before each use.
10. C. Develop hazard controls.

Hazard Communication Program

1. C. To protect every employee's "Right to Know" about chemical hazards in the workplace.
2. B. Nervous system
3. B. Red-flammability, white-special hazard. blue-health hazard, yellow-reactivity
4. D. Material Safety Data Sheets.
5. A. Department Chemical Coordinator.
6. A. Manufacturer's name

Environmental Program

1. Hazardous, non-hazardous, radioactive, mixed
2. D. Source reduction
3. B. Environmental Compliance Authority
4. Site Salvage Program
5. D. Orange balls

Savannah River Site
Action List for Threats/Incidents

Bomb Threat

1. When is the bomb going to explode?
2. Where is it right now?
3. What does it look like?
4. What kind of a bomb is it?
5. What will cause it to explode?
6. Did you place the bomb? Why?
7. Where are you calling from?
8. What is your name?
9. What is your address?

Stolen Nuclear Material Threat

1. What kind of material was stolen?
2. How much material was stolen?
3. What facility was it stolen from?
4. Are identification markings on the container? If so, what are they?
5. What will be done with this material?
6. Where is the material right now?
7. Why was the material stolen?
8. What is your name?
9. What is your address?

Caller's Voice

☐ Calm	☐ Nasal	
☐ Angry	☐ Stutter	
☐ Excited	☐ Lisp	
☐ Slow	☐ Raspy	
☐ Rapid	☐ Deep	
☐ Soft	☐ Ragged	
☐ Loud	☐ Clearing	
☐ Laughter	☐ Deep Breathing	
☐ Crying	☐ Cracking Voice	
☐ Normal	☐ Disguised	
☐ Distinct	☐ Accent	
☐ Slurred	☐ Familiar	

If voice is familiar, who did it sound like?

_____
_____
_____

Background Sounds

☐ Street Noises	☐ Crockery	☐ Factory Machinery
☐ PA System	☐ Animal Noises	☐ Music
☐ Long Distance	☐ Other	

☐ House Noises	☐ Office Machinery	☐ Motor
☐ Voices	☐ Clear	☐ Static
☐ Local	☐ Phone Booth	

_____
_____
_____
_____

NBC Weapons Incident
(Nuclear, Biological, Chemical)
Call 3-3911 or 725-1911

Provide the following—

1. Location of incident or explosive device.
2. Number of persons affected and their symptoms.
3. Time of explosive detonation, if known.
4. Any unusual odors?
5. Any spills or vapor clouds?
6. Spray or hissing sounds coming from device or package?
7. Vehicles/containers involved and any special markings.
8. Your name and phone number.
9. Unusual number of fleas, ticks, mosquitoes, rodents in area where there are usually none.

Employee Response

1. If you see any strange liquid, spray or mist from device or package, do not touch, remove or cover anything.
2. Leave the immediate area; cover your mouth and nose.
3. Call 3-3911 or 725-1911 and report the incident.

Report Stolen Nuclear Material Threats, Bomb Threats or NBC Weapons Incidents to SRSOC Immediately
3-3911

Name _____ Date _____

Position _____ Phone No. _____

Exact Wording of the Threat

_____
_____
_____
_____
_____
_____

Sex of Caller	Race	Age	Length of Call
Number at Which Call was Received	Time Received		Date Received

Threat Language

☐ Well Spoken (Educated)
☐ Foul
☐ Irrational

☐ Incoherent
☐ Taped
☐ Message Read by Threat Maker

Remarks _____
_____
_____
_____